

THIRD QUARTERLY PROGRESS REPORT  
CRYSTAL RIVER STUDIES  
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## 1.0 INTRODUCTION

In response to the requirements of Part III-H, NPDES Permit No. FL0000159 dated July 9, 1979 for Crystal River Units 1, 2, and 3, Florida Power Corporation prepared an ecological monitoring program for the area adjacent to the Crystal River power plant site. The ecological monitoring program is designed to address the objectives of a 316 demonstration as set forth in: Interagency 316(a) Technical Guidance Manual and Guide for Thermal Effects Sections of Nuclear Power Facilities Environmental Impact Statements" and "Guidance for Evaluating the Adverse Impact of Cooling Water Intake Structures on the Aquatic Environment: Section 316(b) P.L. 92-500."

Comparisons of data (control versus effected areas) will be made within the proposed study and with previous studies, where appropriate. The coastal area west of the power plant is characterized by salt marsh dominated by Juncus roemarianus with narrow bands of Spartina alterniflora near the water's edge. The bottom in the adjacent coastal marine area is comprised of sand, mud, shell hash (oyster bars), and exposed lime rock with scattered patches of seagrass, attached benthic algae, and attached benthic invertebrates.

The sampling program was designed primarily to address the following impacts:

1. Thermal impacts from the operation of the power plant (316 (a)).
2. Intake effects in the form of larval entrainment and adult impingement (316 (b)).

Other elements of the program relate to the distribution and movement of surface sediments in the discharge area and to the effects of spoil banks along the intake canal on blue crab migration.

The Crystal River monitoring program is summarized in Table 1-1. This table indicates the types of sampling, number of sampling stations, number of replicates, frequency of sampling, total number of samples, and the overall duration of sampling. Each element of the program falls under one of four major headings: Benthos, Impingement and Entrainment, Fisheries, and Physical Studies.

TABLE 1-1

SUMMARY OF ECOLOGICAL PROGRAM  
CRYSTAL RIVER STUDIES

<u>Study Component</u>	<u>No. of Stations</u>	<u>No. of Rep.</u>	<u>Frequency</u>	<u>Total No. Samples</u>	<u>Study Period</u>
I. Benthos					
A. Benthic core	20	6(+2)	Quarterly	600	15 mos
	20	6(+2)	6 wks	1200	15 mos
B. Macrophyte mapping	50	10	Quarterly + 1 Preliminary	3000	15 mos
	9(intens.)	10	6 wks	900	15 mos
	9(intens.)	5	6 wks	450	15 mos
	9(intens.)	3	6 wks	270	15 mos
C. Aerial photographs	1	1	3 times	3	15 mos
D. Oyster reef	9	90	Monthly & Bimonthly	14580	1½ mos
E. Salt marsh program	8	24	6 wks	1920	15 mos
F. Physical					
a. Chlorophyll 'a'	8	2 depths	Weekly	1040	15 mos
b. Sediment	40	3	Quarterly	1200	15 mos
c. Photometry	40	1 profile	Weekly	2600	15 mos
d. Turbidity, D.O., pH, Salinity, Temperature	40	multiple depth	Weekly	5200	15 mos
e. Sediment Temp- erature, Eh	40	1 depth	Quarterly	200	15 mos
	20	1 depth	6 wks	200	15 mos

TABLE 1-1 (Cont)

<u>Study Component</u>	<u>No. of Stations</u>	<u>No. of Rep.</u>	<u>Frequency</u>	<u>Total No. Samples</u>	<u>Study Period</u>
II. Impingement and Entrainment					
A. Impingement	3	4	Weekly + 3 times	660	12 mos
B. Entrainment	15	3	Biweekly day/night	2880	15 mos
III. Fisheries					
A. Trawl	9	7	Monthly (night)	756	12 mos
B. Seines	4	2	Monthly	96	12 mos
C. Drop net	2	2	Monthly	48	12 mos
D. Creek trawls	4	7	Monthly (day)	336	12 mos
E. Crab traps	120	1	17 times	2040	4 mos
F. Crab impingement	1	1	17 times	17	4 mos
IV. Physical Studies					
A. Suspended loads	40	4 analyses	Biweekly	5120	15 mos
B. Bathymetry	-	-	-	1 survey	-
C. Short-term	16	1	-	Variable	2 mos
D. Long-Term	51	1 or 2	Continuous	Variable	12 mos
E. Meteorology	1	1	Continuous	Variable	15 mos
F. Temperature profiles	Variable	2	Variable	Variable	2 mos

## 2.0 SUMMARY OF PROGRESS

### 2.1 FIELD COLLECTIONS

All field collections were made according to schedule. No major problems were encountered. A summary of the field collections made during the first two quarters is shown in Table 3-1.

### 2.2 LABORATORY ANALYSES

Laboratory analyses of samples collected in the various components of the program are progressing smoothly. As expected, meroplankton (entrainment) samples were heavy during the spawning season and, therefore, laboratory analysis has lagged well behind the field collections. However, analyses have accelerated and should be up to date by April 1984. Analysis of benthos samples currently lags by several weeks, but all other components are progressing according to schedule. A summary of the status of laboratory analysis is shown in Table 2-2.

### 2.3 DATA COMPUTERIZATION

#### 2.3.1 Input

Data have been entered (to date) for the following samples:

- a. Benthic core samples from the June, July, September, October, and November samplings.
- b. Oyster reef samples from the July, August, September, October, November, December, January, and February samplings.
- c. Salt marsh samples from the June, July, September, October, and December samplings.
- d. Macrophyte samples from the June, July, August, September, October, December, and January samplings.
- e. Photometry, temperature, salinity, and pH measurements from June through mid February.
- f. Turbidity and chlorophyll "a" samples through mid February.
- g. Impingement samples from June through February.
- h. Entrainment samples through the week of October 27.
- i. Fisheries samples from June through February.
- j. Suspended solids samples through mid February.
- k. Crab tagging data from September through December.

### 2.3.2 Processing

Data files are received by SWEC on diskettes, logged in, and read into the SWEC computer. Data sets have been received for all program elements for which data were collected in the third quarter. Because laboratory analysis and data handling lag field collection, data for some elements are not yet complete. Four entrainment samplings are represented covering through September 14. The third quarterly benthic core sampling is available but the January interim sampling is not. Salt marsh data from January and February has not yet been input and processed. Water quality and impingement data is lacking only the last two weeks of the quarter, however, the water quality tables are only generated when at least four weeks of data are available. Thus only December and January data are provided.

The data files received by SWEC were checked for completeness and accuracy with the aid of a computerized summary and variable range review. Where necessary, corrections are made and the data are then incorporated into the verified data file. Summary data tables are generated from this file.

### 2.4 PHYSICAL MODELING

The interpretation and processing of the August 1983 current meter and tide gauge data is complete. In preparation for inclusion in and comparison with the mathematical models, month-long plots have been prepared for all 16 stations. The data received include current speed and direction; water temperature from both instruments; salinity, and tide height. The tide pressure readings were corrected for variations in barometric pressure as the tide height was determined. All data has been reduced to yield 30-minute averages.

The January 1984 data have been interpreted and placed on 9-track tape. Data processing and plotting of these data will occur during the beginning of the fourth quarter.

The results of both the August 1983 and January 1984 plume delineation surveys are given in Section 4.5. In preparing these figures replication of measurements was confirmed, data were reduced by averaging replicate values, and the values for surface and bottom entered on base maps. At least 20 stations are reported on each map. The figures depict the results of 2 surveys (1 semidiurnal and 1 mixed tide condition), for each of two seasons, and both salinity and temperature are shown.

The data for the August 1983 vertical current profiling have been reduced to yield depth averaged speed and direction. The average direction was obtained by averaging velocity components and determining the direction of the resultant. Of the 16 stations where current meters were deployed, 5 were representative of river inflow. At the river stations a cross sectional average was obtained.

Calibration of models was begun during this quarter and is continuing. This task includes much additional preparation of the data into a form which the model requires. Improvements to the grid layout were made using simulated values prior to receiving the final processed field data. Changes to the model DISPER, a necessary modification resulting from the addition of semipermeable boundaries, were completed and tested.

TABLE 1  
FIELD COLLECTIONS MADE TO DATE (3/2/84)  
CRYSTAL RIVER STUDIES

Task	Collection Dates	No. of Stations Sampled	No. of Samples Collected	Comments
I.A. Benthic Core	6/13-14/83	40	320	No problems
	7/25/83	20	160	No problems
	9/7-8/83	40	320	No problems
	10/13/83	20	160	No problems
	11/22-23/83	40	320	No problems
	1/4/84	20	160	No problems
	2/22-23/84	40	320	No problems
I.B. Oyster Reef				
1. Oysters	7/11-15/83	9	5,670	Deployed
	8/8-9/83	9	810	Deployed
	8/8-9/83	9	810	Retrieved
	9/15-16/83	9	810	Deployed
	9/15-16/83	9	1,620	Retrieved
	10/11-12/83	9	810	Deployed
	10/11-12/83	9	810	Retrieved
	11/8-9/83	9	810	Deployed
	11/8-9/83	9	1,620	Retrieved
	12/14-15/83	9	810	Deployed
	12/14-15/83	9	810	Retrieved
	1/10-11/84	9	810	Deployed
	1/10-11/84	9	1,620	Retrieved
	2/8-10/84	9	810	Deployed
	2/8-10/84	9	810	Retrieved
2. Associated Fauna	8/8-9/83	9	27	Collected
	9/15-16/83	9	27	Collected
	10/11-12/83	9	27	Collected
	11/8-9/83	9	27	Collected
	12/14-15/83	9	27	Collected
	1/10-11/84	9	27	Collected
	2/8-10/84	9	27	Collected
I.C. Salt Marsh	6/13-17/83	8	192	No problems
	7/24-29/83	8	192	No problems
	9/8-14/83	8	192	No problems
	10/24-28/83	8	192	No problems
	12/8-12/83	8	192	No problems
	1/23-26/84	8	192	No problems
I.D. Macrophytes				
1. Ground truthing	6/20-24/83	50	500	No problems
	9/14-16/83	50	500	No problems
	12/5-8/83	50	500	No problems



## CRYSTAL RIVER STUDIES (Cont'd)

Task	Collection Dates	No. of Stations Sampled	No. of Samples Collected	Comments
2. Intensive monitoring (Clips)	6/27-30/83	8	40	Unable to find 3 seagrassbed stations in thermal area.
	8/1-5/83	9	45	No problems
	9/14-16/83	9	45	No problems
	10/25-26/83	9	45	No problems
	12/6/83	9	45	No problems
	1/17-18/84	9	45	No problems
3. Intensive monitoring (Quadrats)	6/20-24/83	8	80	Unable to find 3 stations in thermal area.
	8/1-5/83	9	90	No problems
	9/14-16/83	9	90	No problems
	10/25-26/83	9	90	No problems
	12/6/83	9	90	No problems
	1/17-18/84	9	90	No problems
4. Seagrass growth	6/27-30/83	8	24	Clipped
	7/11-15/83	8	24	Retrieved
	8/1-5/83	9	27	Clipped
	8/15-19/83	8	24	Retrieved (1 sta. lost)
	9/14-16/83	9	27	Clipped
	9/29/83	9	27	Retrieved
	10/25-26/83	9	27	Clipped
	11/8-10/83	9	27	Retrieved
	12/6/83	9	27	Clipped
	12/19/83	9	27	Retrieved
	1/17-18/84	9	27	Clipped
	2/3/84	9	27	Retrieved
I.E. Aerial Photography	8/27/83	1	1	No photography during May-July because of ground haze
	10/26-27/83	1	1	No problems
	2/8/84	1	1	No problems
I.F. Photometry				
1. Light, temp., sal., pH	6/9/83	39	-	15 sta. out of T-C window
	6/15/83	40	-	8 sta. out of T-C window
	6/22/83	40	-	18 sta. out of T-C window
	6/30/83	40	-	1 sta. out of T-C window
	7/7/83	40	-	2 sta. out of T-C window



## CRYSTAL RIVER STUDIES (Cont'd)

Task	Collection Dates	No. of Stations Sampled	No. of Samples Collected	Comments
	7/12/83	40	-	3 sta. out of T-C window
	7/20/83	40	-	1 sta. out of T-C window
	7/26/83	40	-	Window met
	8/3/83	40	-	Window met
	8/10/83	40	-	Window met
	8/19/83	40	-	Window met
	8/24/83	40	-	1 sta. out of T-C window
	8/30/83	40	-	Window met
	9/6/83	40	-	1 sta. out of T-C window
	9/12/83	40	-	2 sta. out of T-C window
	9/19/83	40	-	2 sta. out of T-C window
	9/27/83	40	-	8 sta. out of T-C window
	10/5/83	40	-	1 sta. out of T-C window
	10/10/83	40	-	10 sta. out of T-C window
	10/18/83	40	-	1 sta. out of T-C window
	10/26/83	40	-	6 sta. out of T-C window. No light data for sta. 1-10.
	11/2/83	40	-	Window met
	11/9/83	40	-	6 sta. out of T-C window
	11/16/83	40	-	Window met
	11/21/83	40	-	5 sta. out of T-C window
	12/2/83	40	-	Window met
	12/7/83	39	-	8 sta. out of T-C window
	12/16/83	40	-	Window met
	12/21/83	40	-	8 sta. out of T-C window
	12/28/83	40	-	1 sta. out of T-C window
	1/5/84	40	-	7 sta. out of T-C window
	1/12/84	39	-	1 sta. out of T-C window
	1/16/84	40	-	Window met
	1/23/84	40	-	6 sta. out of T-C window
	1/30/84	40	-	Window met

## CRYSTAL RIVER STUDIES (Cont'd)

Task	Collection Dates	No. of Stations Sampled	No. of Samples Collected	Comments
	2/7/84	40	-	5 sta. out of T-C window
	2/14/84	40	-	Window met
	2/21/84	40	-	7 sta. out of T-C window
	2/27/84	36 (T,S) 28 (light) 32 (pH)	-	Bad storm
2. Turbidity	6/9/83	40	73	No problems
	6/15/83	40	73	No problems
	6/22/83	40	78	No problems
	6/30/83	40	71	No problems
	7/7/83	40	78	No problems
	7/12/83	40	74	No problems
	7/20/83	40	81	No problems
	7/26/83	40	76	No problems
	8/3/83	40	77	No problems
	8/10/83	40	75	No problems
	8/19/83	40	85	No problems
	8/24/83	40	93	No problems
	8/30/83	40	66	No problems
	9/6/83	40	74	No problems
	9/12/83	40	67	No problems
	9/19/83	40	79	No problems
	9/27/83	40	61	No problems
	10/5/83	40	77	No problems
	10/10/83	40	62	No problems
	10/18/83	40	78	No problems
	10/26/83	40	59	No problems
	11/2/83	40	77	1 Lost in transit
	11/9/83	40	67	No problems
	11/16/83	40	76	No problems
	11/21/83	40	67	No problems
	12/2/83	40	77	No problems
	12/7/83	40	61	No problems
	12/16/83	40	67	1 Sample Lost
	12/21/83	40	58	No problems
	12/28/83	40	78	No problems
	1/5/84	40	64	No problems
	1/12/84	40	68	No problems
	1/16/84	40	75	No problems
	1/23/84	40	61	No problems
	1/30/84	40	71	No problems
	2/7/84	40	65	No problems
	2/14/84	40	75	No problems
	2/21/84	40	64	No problems
	2/27/84	32	64	Bad storm

## CRYSTAL RIVER STUDIES (Cont'd)

Task	Collection Dates	No. of Stations Sampled	No. of Samples Collected	Comments
3. Chlorophyll 'a'	6/9/83	8	15	No problems
	6/15/83	8	17	No problems
	6/22/83	8	16	No problems
	6/30/83	8	15	No problems
	7/7/83	8	15	No problems
	7/12/83	8	16	No problems
	7/20/83	8	15	No problems
	7/26/83	8	17	No problems
	8/3/83	8	15	No problems
	8/10/83	8	16	No problems
	8/19/83	8	20	No problems
	8/24/83	8	14	No problems
	8/30/83	8	16	No problems
	9/6/83	5.5	11	3 samples lost
	9/12/83	10	17	No problems
	9/19/83	8	16	No problems
	9/27/83	8	12	No problems
	10/5/83	7	13	Tech. error 1 sta. missed
	10/10/83	9	15	No problems
	10/18/83	8	15	No problems
	10/26/83	8	11	No problems
	11/2/83	8	16	No problems
	11/9/83	8	13	No problems
	11/16/83	8	15	No problems
	11/21/83	8	14	No problems
	12/2/83	8	15	No problems
	12/7/83	8	14	No problems
	12/16/83	8	12	No problems
	12/21/83	8	12	No problems
	12/28/83	8	17	No problems
	1/5/84	8	14	No problems
	1/12/84	8	14	No problems
	1/16/84	8	15	No problems
	1/23/84	8	11	No problems
	1/30/84	8	15	No problems
	2/7/84	8	12	No problems
	2/14/84	8	13	No problems
	2/21/84	8	12	No problems
	2/27/84	8	16	No problems
I.G. Sediments				
1. TOC & granulometry	6/13-17/83	40	120	No problems
	9/5-9/83	40	120	No problems
	11/22-23/83	40	120	No problems
	2/22-23/84	40	120	No problems
2. Sulfides	6/13-21/83	40	120	No problems
	8/29-9/2/83	40	120	No problems
	11/14-18/83	40	120	No problems
	2/20-27/84	40	120	No problems

## CRYSTAL RIVER STUDIES (Cont'd)

Task	Collection Dates	No. of Stations Sampled	No. of Samples Collected	Comments
3. Temp., Eh	6/13-14/83	40	40	No problems
	7/25/83	20	20	No problems
	9/7-8/83	40	40	No problems
	10/13/83	20	20	No problems
	11/22-23/83	40	40	No problems
	1/4/84	20	20	No problems
	2/22-23/84	40	40	No problems
II.A. Impingement	6/6-7/83	2	8	No problems
*Crabs collected	6/13-14/83	2	8	No problems
held, tagged,	6/23-24/83	1	4	Basket broke
and released	7/1-2/83	2	8	No problems
	7/5-6/83	2	8	No problems
	7/14-15/83	2	8	No problems
	7/19-20/83	3	10	Basket broke
	7/25-26/83	3	12	No problems
	8/4-5/83	3	12	No problems
	8/9-10/83	3	10	Operator error
	8/15-16/83	3	12	No problems
	8/25-26/83	3	12	No problems
	9/1-2/83	3	12	No problems
	*9/7-8/83	3	12	No problems
	*9/17-18/83	3	12	No problems
	*9/21-22/83	2	8	No problems
	*9/28-29/83	2	8	No problems
	*10/3-4/83	3	12	No problems
	*10/11-12/83	3	12	No problems
	*10/21-22/83	2	8	No problems
	*10/24-25/83	3	12	No problems
	*11/2-3/83	3	11	Unit 1 offline 0300
	*11/12-13/83	3	7	Operator error at Unit 1, Unit 2 offline.
	*11/17-18/83	3	11	Basket broke Unit 2 0300
	*11/23-24/83	3	12	No problems
	*12/3-4/83	3	12	No problems
	*12/9-10/83	3	12	No problems
	*12/16-17/83	3	12	No problems
	*12/20-21/83	3	12	No problems
	*12/29-30/83	3	12	Many dead fish on screens
	1/4-5/84	3	12	No problems
	1/10-11/84	3	12	No problems
	1/17-18/84	3	12	No problems
	1/26-27/84	3	12	No problems
	1/30-31/84	3	12	No problems
	2/7-8/84	3	12	No problems
	2/14-15/84	3	12	No problems
	2/25-26/84	3	12	No problems
	2/29-3/1/84	3	12	No problems

## CRYSTAL RIVER STUDIES (Cont'd)

Task	Collection Dates	No. of Stations Sampled	No. of Samples Collected	Comments
Impingement (3 mm)	7/1/83	2	2	No problems
	7/25/83	3	3	No problems
	8/26/83	3	3	No problems
	9/28/83	2	2	No problems
	10/24-25/83	3	3	No problems
	11/23-24/83	3	3	No problems
	12/20-21/83	3	3	No problems
	1/26-27/84	3	3	No problems
	2/25-26/84	3	3	No problems
II.B. Entrainment	6/23-25/83	15	120	No problems
	7/6-8/83	15	120	No problems
	7/21-22/83	15	120	No problems
	8/1-2/83	15	120	No problems
	8/15-17/83	15	120	No problems
	8/31-9/1/83	15	120	No problems
	9/14-15/83	15	120	No problems
	9/27-29/83	15	120	No problems
	10/11-13/83	15	120	No problems
	10/24-28/83	15	120	Sta. L. re-located (grass-bed)
	11/8-10/83	15	120	No problems
	11/21-23/83	15	120	No problems
	12/7-8/83	15	120	No problems
	12/19-20/83	15	120	No problems
	1/3-4/84	15	120	No problems
	1/17-19/84	15	120	No problems
	1/31-2/1/84	15	120	No problems
	2/15-16/84	15	120	No problems
	3/1-2/84	15	120	No problems
III. Fisheries				
1. Trawl	6/27-30/83	9	63	No problems
	7/26-27/83	9	63	No problems
	8/23-24/83	9	63	No problems
	9/19-20/83	9	63	No problems
	10/17-18/83	9	63	No problems
	11/14-15/83	9	63	No problems
	12/12/83	9	63	No problems
	1/23/84	9	63	No problems
	2/20/84	9	63	No problems
2. Seines	6/28-7/7/83	4	8	No problems
	7/26-28/83	4	8	No problems
	8/22-23/83	4	8	No problems
	9/21-22/83	4	8	No problems
	10/18-19/83	4	8	No problems
	11/15-17/83	4	8	No problems
	12/12-14/83	4	8	No problems
	1/24-25/84	4	8	No problems
	2/22-23/84	4	8	No problems

## CRYSTAL RIVER STUDIES (Cont'd)

Task	Collection Dates	No. of Stations Sampled	No. of Samples Collected	Comments
3. Drop net	7/5-6/83	2	4	No problems
	7/27-28/83	2	4	No problems
	8/22-23/83	2	4	No problems
	9/22-23/83	2	4	No problems
	10/18-19/83	2	4	No problems
	11/15-17/83	2	4	No problems
	12/13-14/83	2	4	No problems
	1/24-25/84	2	4	No problems
	2/20-23/84	2	4	No problems
4. Creek trawls	7/26-27/83	4	28	No problems
	8/22-24/83	4	28	No problems
	9/21-22/83	4	28	No problems
	10/18-19/83	4	28	No problems
	11/15-16/83	4	28	No problems
	12/12-14/83	4	28	No problems
	1/23-26/84	4	28	No problems
	2/22-23/84	4	28	No problems
5. Crab tagging	9/5-6/83	24	120	Deployed
	9/12-13/83	24	115/120	91 tagged
	9/19-20/83	24	118/120	88 tagged
	9/26-27/83	24	116/120	102 tagged
	10/3-4/83	24	120/120	95 tagged
	10/10-11/83	24	120/120	119 tagged
	10/17-18/83	24	119/120	120 tagged
	10/24-25/83	24	118/120	151 tagged
	10/31-11/83	24	120/120	91 tagged
	11/7-8/83	24	120/120	211 tagged
	11/14-15/83	24	120/120	353 tagged
	11/21-22/83	24	120/120	642 tagged
	11/28-30/83	24	120/120	576 tagged
	12/5-6/83	24	119/120	720 tagged
	12/12-13/83	24	119/120	716 tagged
	12/19-20/83	24	120/120	729 tagged
	12/26-27/83	24	120/120	742 tagged
	12/31-1/1/84	24	120/120	194 tagged
IV.A.1. Bathymetry	6/6-7/83	1 survey	--	Weather problems
	6/13-14/83	1 survey	--	Half complete
	6/28-30/83	1 survey	--	All complete
11/21/83	1 survey		--	3 transects
IV.A.2. Short Term				
1. Tide Gauges	8/1-30/83	16	16	75% data recovery
2. Current Meters	8/1-30/83	16	16	95% data recovery



## CRYSTAL RIVER STUDIES (Cont'd)

Task	Collection Dates	No. of Stations Sampled	No. of Samples Collected	Comments
3. Vertical profiles	8/1-30/83	64	64	No problems
	1/10-13/84	64	64	No problems
4. Stream cross-sections	8/4/83	4	4	No problems
IV.A.3. Long Term	6/6-17/83	51	72	Deployed
	7/4-8/83	49	69	Retrieved (3 lost)
	7/4-8/83	51	72	Deployed
	8/1-5/83	43	60	Retrieved (12 lost)
	8/1-5-83	43	60	Deployed
	8/8-12/83	5	7	Deployed
	8/15-16/83	3	5	Deployed
	9/1-2/83	39	57	Retrieved (15 lost)
	9/1-2/83	39	57	Deployed
	9/5-9/83	12	15	Deployed
	9/25-30/83	44	58	Retrieved
	9/26-30/83	51	72	Deployed
	10/10-11/83	49	69	3 thermographs lost; mid-month check
	10/10-11/83	51	72	Deployed
	10/24-26/83	47	66	Retrieved
	10/24-26/83	51	72	Deployed
	11/28-30/83	49	70	Retrieved
	11/28-30/83	51	72	Deployed
	12/19/83	50	70	Retrieved
	12/19/83	51	72	Deployed
	1/17-19/84	49	69	Retrieved
	1/17-19/84	51	72	Deployed
	2/13-16/84	51	69	Retrieved
	2/13-16/84	51	72	Deployed
IV.B. Suspended Load	6/9/83	40	74	No problems
	6/22/83	40	79	No problems
	7/7/83	40	80	No problems
	7/20/83	40	83	No problems
	8/3/83	40	77	No problems
	8/19/83	40	85	No problems
	8/30/83	40	70	No problems
	9/12/83	40	68	No problems
	9/27/83	40	61	No problems
	10/10/83	40	62	No problems
	10/26/83	40	59	No problems
	11/9/83	40	67	No problems
	11/21/83	40	67	No problems
	12/7/83	40	61	No problems
	12/21/83	40	58	No problems
	1/5/84	40	64	No problems

## CRYSTAL RIVER STUDIES (Cont'd)

Task	Collection Dates	No. of Stations Sampled	No. of Samples Collected	Comments
	1/16/84	40	75	No problems
	1/30/84	40	71	No problems
	2/14/84	40	75	No problems
	2/27/84	32	63	Bad storm

## IV.C. Meteorology

Station fully operational except for the period 8/5-25/83 when lightning struck and damaged the system.



TABLE 2  
STATUS OF LABORATORY ANALYSES TO DATE (3/28/84)  
CRYSTAL RIVER STUDIES

Task		Samples Collected to Date	Samples to be Analyzed	Samples Analyzed to Date	Comments
I.A.	Benthic Core				
	1. Rough sorting	1,760	1,320	1,146	No problems
	2. Identifications	1,760	1,320	990	No problems
I.B.	Oyster Reef				
	1. Oysters	12,150	12,150	12,150	No problems
	2. Associated fauna	216	216	105	(clumps)
I.C.	Salt Marsh	1,344	1,344	1,152	No problems
I.D.	Macrophytes				
	1. Ground truthing	2,000	2,000	2,000	No problems
	2. Intensive monitoring	310	310	295	No problems
	3. Seagrass growth	183	183	156	No problems
I.F.	Photometry				
	1. Turbidity	3,125	3,125	3,125	No problems
	2. Chlorophyll 'a'	634	634	634	No problems
I.G.	Sediments				
	1. TOC & granulometry	480	480	408	No problems
	2. Sulfides	480	480	480	No problems
II.A.	Impingement				
	1. Regular	441	441	433	No problems
	2. 3 mm	25	25	22	No problems
II.B.	Entrainment				
	1. Rough sorting	2,400	1,800	1,800	No problems
	2. Identification	2,400	1,800	1,260	No problems
III.	Fisheries				
	1. Trawl	630	630	567	No problems
	2. Seines	80	80	72	No problems
	3. Drop net	40	40	36	No problems
	4. Creek trawls	252	252	224	No problems
IV.B.	Suspended Solids				
	1. TSS	1,564	1,564	1,564	No problems
	2. VSS	1,564	1,564	1,564	No problems

### 3.0 SUMMARY OF FINAL ANALYSES

#### 3.1 INTRODUCTION

The following is an outline of the analyses proposed for the final report on the Crystal River field data collected from June 1983 through August 1984. This outline is provided for review and discussion at the Third Quarterly Progress Meeting to be held on May 3, 1984.

For each category of data derived from the sampling program, the anticipated statistical summary and/or analysis is discussed. To the extent possible, statistical treatment of data will utilize the various procedures within the Statistical Analysis System, Version 82.3. These procedures are sufficiently broad to cover all the intended analyses and graphical displays of data.

#### 3.2 BENTHOS

- 3.2.1 Linear means analysis of total faunal density (or number), species diversity (Shannon-Weaver) and number of species (species richness) will be used to compare among stations and between dates for quarterly benthic core sampling. Dominant species will also be analyzed in a similar manner. Six week interim samples will be used, as needed, to confirm trends. Covariance terms will be developed from an analysis of sediment temperature, Eh, total organic carbon, sulfide and sediment type. For each quarterly sampling date, a matrix of faunal similarity indexes will be presented for all benthic core stations. Group averaged sorting can then be used to cluster stations based on similarity. In addition, stations will be grouped based on temperature characteristics using averaged weekly temperature data (bottom). Contrasts can then be developed for thermal and control areas.
- 3.2.2 Macrophyte ground-truthing data will be used to produce seasonal maps of the study area showing location and extent of seagrass and algae in the study area. Linear means analysis of macrophyte percent cover, growth rates, total standing biomass, and total shoot density will be used to compare among stations and between sampling dates. Dissolved oxygen, pH and photometric data will be analyzed as potential covariates. Stations will be clustered into representative zones (thermal, north and south controls) for development of contrasts.
- 3.2.3 Linear means analysis of salt marsh data by genus (shoot density, live and dead biomass, density of associated invertebrates) will be used to compare among stations and between sample dates. Stations will be compared using temperature ranges defined by marsh thermograph stations.
- 3.2.4 Associations will be analyzed for photometry, suspended load, turbidity, and chlorophyll a data every two weeks by station.
- 3.2.5 Monthly oyster reef data will be used to compare growth, weight, and mortality by station. Temperatures, based on weekly readings, will

be considered by station. Abundance of spat by station will be compared. Variation in growth, weight, and mortality will be compared by station using oysters retrieved every two months to provide information in long term fluctuations.

### 3.3 IMPINGEMENT

3.3.1 Total impingement and impingement by species for representative important species will be estimated based on flow and unit. A yearly rate estimate will be made for a 100 percent capacity factor.

3.3.2 A linear means analysis will be used to evaluate total number and total biomass (fish and invertebrates analyzed separately) blocked on date (or season as necessary) and compare units, time of day (day/night), and interactions of dates, units and time of day. Effects of wind and barge traffic will be compared within date (or season), unit and time of day. Effects of tide and water temperature will be fit as covariates.

### 3.4 ENTRAINMENT

3.4.1 Total plankton entrainment and entrainment by species, life stage and time of day for the representative important species (RIS) will be calculated based on total organism abundance in the towed nets at sampling station C (at the POD), D, or E and 100 percent flow through all three units for the entire year. Where sufficient life history data are available, these numbers of RIS plankton will be related to the numbers of equivalent adults.

3.4.2 A linear means analysis of total density and density of RIS during their period of abundance in towed net samples will be conducted. The analysis will block on date (or season as necessary) and compare mean density among sampling stations and between day and night as well as possible interactions of date, station and time. Effects of temperature (continuous), tide and wind (both discrete) will be fit as covariates.

3.4.3 Total plankton abundance will be plotted by dates (or seasons).

3.4.4 A source term analysis will be conducted using a finite element model. The two dimensional model will use the tidal information from the physical modeling studies to model relative entrainment losses from alternative plankton source locations. The locations and relative loading densities are to be based on oblique net tows.

3.4.5 Data from creek and grassbed samples will be used to describe the plankton at each station. Variation in total density will be compared between day/night.

### 3.5 FISHERIES

3.5.1 Linear means analyses will be conducted for each gear type for total fish and for all RIS species collected in sufficient abundance. The analyses will compare abundance and weights among stations and dates

of sampling. Contrasts will group stations by thermal and control areas.

- 3.5.2 A comparison will be made of catch by location (stations) and date of sampling for blue and stone crabs. Size will be considered for blue and stone crabs and sex will be considered for blue crabs.
- 3.5.3 A figure will be presented illustrating movement patterns of recaptured crabs.

### 3.6 PHYSICAL DATA

- 3.6.1 Short Term In situ Data - Data from the current meters and tide gauges will be presented in graphical form. Those stations and time periods used in the calibration or verification effort will be presented. All parameters for a particular station, including tide height, water temperature, salinity and current velocity, will be presented on one figure.
- 3.6.2 Velocity Profiling - Current profiling data will be summarized in tabular form. This table will provide vertically averaged values and ranges of current velocity for each measured profile for selected stations. The stations to be presented are the same as in Item 3.6.1.
- 3.6.3 Bathymetry - The bathymetric data will be presented on a base map of the study area. This data will appear as depth values along the transects run.
- 3.6.4 Calibration Results - The results of the calibration study will consist of figures comparing predicted and measured values of tidal height and current velocity for CAFE. For DISPER, predicted and measured values of salinity will be presented. These figures will be for selected stations and will cover both the calibration and verification periods.
- 3.6.5 Production Run Results - CAFE results will consist of 2-4 plots showing the current velocity distribution over the period of a tidal cycle. DISPER results will consist of plots of WT distribution for 2 values of plant load under summer and winter conditions. There will be separate plots for each of the four phases of the tidal cycle (flood, high water slack, ebb, and low water slack).

#### 4.0 DATA TABLES

##### 4.1 INTRODUCTION

Summary data tables, primarily for the third quarter of the program, are displayed in subsequent sections. They are identical in format and method of deviation to previously submitted tables. One set of tables not previously provided is for macrophytes and the following should be noted:

- . Percent cover for ground truthing and intensive sampling is based on 10 replicates. Percentages for all species at a station can add to more than 100 percent.
- . Biomass and density information is an average of 5 replicates.
- . Growth data is an average of at least 3 replicates.

Figures in Section 4.5 resulted from the short-term, plume delineation surveys. Surveys were conducted twice in August and twice in January. One survey each month sampled a diurnal tide and one surveyed a semidiurnal tide. Samples of each tidal phase were taken over a 30 minute period and then repeated. The uncircled temperatures and salinities given are the average of the two values collected at each station over the hour. Circled values represent a single reading taken by a boat following a flexible route during the same survey periods. Data for temperature (°C) and salinity (ppt) are shown in separate figures. The paired figures represent surface (upper) and bottom (lower) measurements at a single station. Tides are noted as ebb, flood, LWS (low water slack) and HWS (high water slack).

#### 4.2 BENTHOS

## BENTHOS ABUNDANCE BY STATION AND SPECIES

1

NUMBER PER SQUARE METER  
OCTOBER 1983

SPECIES NAME	1	2	3	4	5	6	7	8	9	10
NEMERTINA SP. = RHYNCHOCOELA	.	.	.	32	32	.	85	.	107	.
POLYNOID GENUS D	.	.	.	0	0	.	11	.	21	.
POLYNOID GENUS B	.	.	.	0	0	.	0	.	21	.
ETEONE HETEROPODA	.	.	.	0	0	.	11	.	0	.
EULALIA SANGUINEA	.	.	.	0	0	.	11	.	0	.
PARANAITIS POLYNOIDES	.	.	.	11	0	.	0	.	11	.
GYPTIS BREVI PALPA	.	.	.	0	0	.	11	.	21	.
PARAHESIONE LUTEOLA	.	.	.	11	0	.	0	.	0	.
ANCISTROSYLLIS SP.	.	.	.	0	0	.	11	.	0	.
PARANDALIA AMERICANA	.	.	.	149	21	.	0	.	0	.
EXOGONE DISPAR	.	.	.	0	0	.	32	.	0	.
NEANTHES MICROMMA	.	.	.	0	0	.	11	.	0	.
NEANTHES SUCCINEA	.	.	.	0	0	.	21	.	0	.
LAONEREIS CULVERI	.	.	.	0	0	.	11	.	21	.
GLYCERA AMERICANA	.	.	.	0	0	.	11	.	0	.
HEMIPODUS ROSEUS	.	.	.	0	0	.	0	.	43	.
GONIADIDES CAROLINAE	.	.	.	11	11	.	0	.	0	.
DIOPATRA CUPREA	.	.	.	0	0	.	11	.	0	.
KINBERGONUPHIS SIMONI	.	.	.	0	0	.	107	.	0	.
MARPHYSA SANGUINEA	.	.	.	11	0	.	0	.	0	.
LUMBRINERIS VERRILLI	.	.	.	11	11	.	32	.	32	.
DRILONEREIS LONGA	.	.	.	0	0	.	43	.	0	.
ARABELLA TRICOLOR	.	.	.	0	0	.	11	.	0	.
HAPLOSCOLOPLOS FRAGILIS	.	.	.	43	192	.	0	.	181	.
SCOLOPLOS RUBRA	.	.	.	11	0	.	181	.	0	.
ARICIDEA PHILBINAE	.	.	.	480	512	.	160	.	0	.
ARICIDEA TAYLORI	.	.	.	0	64	.	309	.	64	.
CIRROPHORUS LYRA	.	.	.	21	0	.	0	.	0	.
POLYDORA SOCIALIS	.	.	.	0	0	.	64	.	21	.
POLYDORA WEBSTERI	.	.	.	0	0	.	11	.	0	.
CARAZIELLA HOBSONAE	.	.	.	0	0	.	0	.	32	.
PARAPRIONOSPIO PINNATA	.	.	.	32	53	.	203	.	245	.
STREBLOSPIO BENEDICTI	.	.	.	907	1376	.	245	.	117	.
SCOLELEPIS TEXANA	.	.	.	0	11	.	64	.	21	.
MINUSPIO CIRRIFERA	.	.	.	0	0	.	0	.	53	.
MAGELONA PETTIBONEAE	.	.	.	0	0	.	107	.	0	.
POECILOCHAETUS JOHNSONI	.	.	.	0	0	.	11	.	0	.
SPIOCHAETOPTERUS C. OCULATUS	.	.	.	11	0	.	21	.	53	.
CAULLERIELLA SP.	.	.	.	0	0	.	0	.	11	.
THARYX ANNULOSUS	.	.	.	11	11	.	363	.	64	.
CAPITELLA CAPITATA	.	.	.	43	0	.	11	.	0	.
NOTOMASTUS LATERICEUS	.	.	.	0	0	.	11	.	0	.
MEDIOMASTUS AMBISETA	.	.	.	2421	11	.	11	.	0	.
MEDIOMASTUS SP.	.	.	.	0	1013	.	149	.	64	.
MYRIOCHELE OCULATA	.	.	.	0	0	.	0	.	11	.
PECTINARIA GOULDII	.	.	.	0	0	.	0	.	21	.
CHONE AMERICANA	.	.	.	0	0	.	11	.	11	.
MEGALOMMA BIOOCULATUM	.	.	.	0	0	.	21	.	0	.
FABRICIA SABELLA	.	.	.	0	11	.	0	.	0	.
OLIGOCHAETE	.	.	.	405	800	.	459	.	107	.
SOLARIOBIS SHIMERI	.	.	.	0	0	.	0	.	11	.
CIRCULUS SUPPRESSUS	.	.	.	0	0	.	0	.	11	.
CREPIDULA SP.	.	.	.	0	0	.	85	.	0	.



## BENTHOS ABUNDANCE BY STATION AND SPECIES

2

NUMBER PER SQUARE METER  
OCTOBER 1983

SPECIES NAME	1	2	3	4	STATION 5	6	7	8	9	10
CREPIDULA MACULOSA	.	.	.	0	0	.	11	.	0	.
MITRELLA LUNATA	.	.	.	0	0	.	0	.	96	.
OLIVELLA MINUTA	.	.	.	0	0	.	0	.	11	.
GRANULINA OVULIFORMIS	.	.	.	0	0	.	53	.	0	.
ODOSTOMIA BISUTURALIS	.	.	.	0	0	.	0	.	11	.
TURBONILLA DALLI	.	.	.	0	0	.	64	.	0	.
ACTEON PUNCTOSTRIATUS	.	.	.	0	0	.	0	.	11	.
ACTEOCINA CANALICULATA	.	.	.	0	0	.	32	.	0	.
BIVALVIA SP.	.	.	.	0	11	.	0	.	0	.
NUCULA PROXIMA	.	.	.	0	0	.	11	.	0	.
LUCINA NASSULA	.	.	.	0	0	.	11	.	0	.
NEAEROMYA FLORIDANA	.	.	.	0	0	.	11	.	107	.
ENSITELLOPS SP.	.	.	.	0	0	.	0	.	11	.
MULINIA LATERALIS	.	.	.	0	0	.	75	.	43	.
TELLINA SP.	.	.	.	0	43	.	0	.	0	.
TELLINA VERSICOLOR	.	.	.	21	0	.	0	.	0	.
PARASTEROPE POLLEX	.	.	.	0	0	.	0	.	11	.
PODOCOPA SPP.	.	.	.	11	0	.	0	.	0	.
HAPLOCYTHERIDA SETIPUNCTATA	.	.	.	11	0	.	0	.	0	.
CALANGID COPEPODA	.	.	.	704	459	.	0	.	0	.
HARPACTICOID COPEPODA	.	.	.	43	0	.	0	.	0	.
BALANUS IMPROVISUS	.	.	.	0	0	.	448	.	0	.
LEUCON SP. A	.	.	.	0	0	.	0	.	11	.
HALMYRAPSEUDES CF. CUBANENSIS	.	.	.	11	0	.	0	.	0	.
APANTHURA MAGNIFICA	.	.	.	0	0	.	11	.	0	.
XENANTHURA BREVITELSON	.	.	.	11	0	.	0	.	0	.
AMPELISCA HOLMESI	.	.	.	0	0	.	11	.	0	.
AMPELISCA ABDITA	.	.	.	0	0	.	11	.	0	.
CYMA DUSA COMPTA	.	.	.	11	11	.	0	.	0	.
BATEA CF. CATHARINENSIS	.	.	.	0	0	.	21	.	0	.
COROPHIUM LACUSTRE	.	.	.	0	0	.	21	.	0	.
ERICHTHONIUS BRASILIENSIS	.	.	.	0	0	.	0	.	107	.
MELITA LONGISETOSA	.	.	.	53	0	.	0	.	0	.
OGYRIDES LIMICOLA	.	.	.	32	0	.	0	.	0	.
HIPPOLYTE PLEURACANTHA	.	.	.	0	0	.	0	.	11	.
PETROLISTHES ARMATUS	.	.	.	0	0	.	0	.	21	.
BRACHYURA SP. (JUV.)	.	.	.	11	0	.	21	.	0	.
PANOPEUS HERBSTII	.	.	.	0	0	.	0	.	11	.
PINNOTHERIDAE SP.	.	.	.	0	0	.	21	.	0	.
SQUILLA EMPUSA	.	.	.	0	0	.	11	.	0	.
PHASCOLION SP.	.	.	.	0	0	.	0	.	21	.
PHORONIS ARCHITECTA	.	.	.	0	0	.	53	.	0	.
OPHIUROIDEA SP.	.	.	.	0	0	.	21	.	0	.
AMPHIURIDAE SP.	.	.	.	0	0	.	11	.	0	.
AMPHIODIA TRYCHNA	.	.	.	0	0	.	0	.	11	.
MICROPHOLIS GRACILLIMA	.	.	.	0	0	.	0	.	75	.
MOLGULIDAE SP.	.	.	.	0	0	.	11	.	0	.
TOTAL DENSITY	.	.	.	5536	4651	.	3861	.	1941	.
TOTAL NUMBER OF SPECIES	.	.	.	29	19	.	57	.	42	.



## BENTHOS ABUNDANCE BY STATION AND SPECIES

NUMBER PER SQUARE METER  
OCTOBER 1983

SPECIES NAME	11	12	13	14	STATION 15	16	17	18	19	20
PISCES SP.		0	0		0		0	11		0
PORIFERA SP.		53	11		0		0	0		0
HYDROZOA SP.		11	0		0		0	0		11
ATHENARIA		32	0		0		0	11		0
THENARIA SP.		213	0		0		0	0		0
NEMERTINA SP. = RHYNCHOCOELA		139	21		64		32	11		267
NEMATODA		64	21		395		0	64		11
LEPIDONOTUS VARIABILIS		11	0		0		0	0		0
POLYNOID GENUS D		0	0		21		0	0		0
PHOLOE SP.		11	0		0		0	0		0
PARAMPHINOME SP. B		21	0		0		0	0		0
PHYLLODOCE CASTANEA		0	0		0		0	0		11
PHYLLODOCE ARENAE		0	0		0		0	11		43
ETEONE HETEROPODA		0	0		0		0	11		0
PARANAITIS POLYNOIDES		0	0		11		0	0		0
GYPTIS BREVIPALPA		11	0		21		0	0		0
ANCISTROSYLLIS JONESI		11	0		0		0	0		0
TYPOSYLLIS SP.		11	11		0		0	0		0
TYPOSYLLIS CF. LUTEA		0	192		0		0	0		0
EXOGONE DISPAR		277	0		21		0	0		0
EXOGONE ATLANTICA		32	0		0		0	0		0
SPHAEROSYLLIS SPP.		171	0		0		0	0		0
SPHAEROSYLLIS TAYLORI		53	0		0		0	0		21
BRANIA CLAVATA		21	32		0		0	0		0
EHLERSIA CORNUTA		11	0		0		0	0		0
EHLERSIA FERRUGINA		21	0		0		0	0		0
HAPLOSYLLIS SPONGICOLA		2912	0		0		0	0		0
STREPTOSYLLIS PETTIBONEAE		0	0		11		0	0		0
BRANCHIOSYLLIS EXILIS		21	0		0		0	0		0
NEREIDAE SP.		0	171		21		843	277		0
CERATONEREIS IRRATABILIS		53	0		0		0	0		11
NEANTHES MICROMMA		640	0		11		0	0		0
NEANTHES SUCCINEA		0	149		0		43	0		0
LAONEREIS CULVERI		21	11		0		1152	1141		0
GLYCERA AMERICANA		21	0		0		0	0		0
GLYCINDE SOLITARIA		0	21		11		11	0		11
GONIADIDES CAROLINAE		693	0		0		0	0		0
KINBERGONUPHIS SIMONI		0	0		32		0	0		0
MARPHYSA SANGUINEA		0	11		0		11	0		0
LUMBRINERIS VERRILLI		192	0		43		0	11		395
DRILONEREIS LONGA		11	0		0		0	0		0
DORVILLEA SOCIABILIS		11	0		0		0	0		0
SCHISTOMERINGOS RUDOLPHI		11	0		0		0	0		0
PETTIBONEIA SP. A		11	0		0		0	0		0
HAPLOSCOLOPLOS FOLIOSUS		0	21		0		0	21		21
HAPLOSCOLOPLOS FRAGILIS		0	0		21		0	0		0
HAPLOSCOLOPLOS SP.		0	11		0		21	0		0
SCOLOPLOS RUBRA		0	0		21		0	21		75
SCOLOPLOS SP.		96	0		0		0	0		0
ARICIDEA PHILBINAE		11	245		224		2144	43		11
ARICIDEA TAYLORI		213	0		427		2080	437		235
ARICIDEA SP. C		11	0		0		0	0		0
ARICIDEA CATHERINAE		331	0		0		0	0		0

## BENTHOS ABUNDANCE BY STATION AND SPECIES

2

NUMBER PER SQUARE METER  
OCTOBER 1983

SPECIES NAME	11	12	13	14	STATION 15	16	17	18	19	20
CIRROPHORUS LYRA		96	0		32		0	43		0
POLYDORA SOCIALIS		21	43		11		21	0		32
POLYDORA WEBSTERI		0	21		0		0	0		160
PRIONOSPPIO HETEROBRANCHIA		11	11		0		0	11		11
PRIONOSPPIO CRISTATA		213*	0		0		0	0		0
PRIONOSPPIO SP.		21	0		0		0	0		0
SPIO PETTIBONEAE		96	0		0		0	0		0
PARAPRIONOSPPIO PINNATA		0	21		811		32	43		704
STREBLOSPIO BENEDICTI		21	224		512		1749	1973		2432
SCOLELEPIS TEXANA		0	0		43		0	53		32
MINUSPIO CIRRIFERA		85	0		0		0	0		0
MAGELONA PETTIBONEAE		0	0		43		0	0		0
MAGELONA CF CINCTA		11	0		0		0	0		0
POECILOCHAETUS JOHNSONI		11	0		0		0	0		0
SPIOCHAETOPTERUS C. OCLATUS		11	0		32		0	0		21
CAULLERIELLA SP.		469	0		0		0	0		0
THARYX ANNULOSUS		192	0		821		213	11		171
CHAETOZONE SP.		85	0		0		0	0		0
CAPITELLA CAPITATA		43	11		11		395	85		0
HETEROMASTUS FILIFORMIS		0	0		0		192	0		0
MEDIOMASTUS CALIFORNIENSIS		405	0		0		0	0		0
MEDIOMASTUS SP.		0	64		139		32	32		448
PETALOPROCTUS SP.		11	0		0		0	0		0
AXIOTHELLA MUCOSA		21	107		0		0	0		0
MYRIOCHELE OCLATA		160	0		0		0	0		0
SABELLARIA VULGARIS		64	0		0		0	0		53
PECTINARIA GOULDII		0	0		11		0	0		21
AMPHICTEIS GUNNERI		11	0		0		0	0		0
PISTA CRISTATA		11	0		0		0	0		0
PISTA QUADRILOBATA		0	0		0		0	0		11
THELEPUS SETOSUS		0	0		0		0	0		21
LOIMIA MEDUSA		11	0		0		0	0		0
CHONE AMERICANA		160	21		0		0	0		0
FABRICIA SABELLA		139	203		0		0	0		32
OLIGOCHAETE		501	53		203		405	907		149
GASTROPODA SP.		0	11		0		0	0		0
SOLARIOBIS SHIMERI		0	0		0		0	0		11
CAECUM PULCHELLUM		0	0		11		0	0		0
SEILA ADAMSI		0	11		0		0	0		0
EPTONIUM FOLIACEICOSTUM		11	0		0		0	0		0
MELANELLA CONOIDEA		11	0		0		0	0		0
STROMBIFORMIS HEMPHILLI		21	0		0		0	0		0
CREPIDULA PLANA		64	21		203		0	0		21
CREPIDULA MACULOSA		11	0		213		11	0		0
NATICA PUSILLA		11	0		0		0	0		0
MITRELLA LUNATA		0	11		0		11	0		0
ANACHIS SP.		11	0		0		0	0		0
CANTHARUS CANCELLARIUS		43	0		0		0	0		0
NASSARIUS VIBEX		0	0		11		0	0		0
OLIVELLA SP. B		256	0		0		0	0		0
OLIVELLA MINUTA		0	0		32		0	0		0
GRANULINA OVULIFORMIS		0	11		43		0	0		0
MARGINELLA APICINA		21	0		0		0	0		0

## BENTHOS ABUNDANCE BY STATION AND SPECIES

3

NUMBER PER SQUARE METER  
OCTOBER 1983

SPECIES NAME	11	12	13	14	STATION 15	16	17	18	19	20
MARGINELLA AUREOCINCTA		11	0		0		0	0		0
MARGINELLA LAVALLEEANA		43	0		0		0	0		0
ODOSTOMIA IMPRESSA		0	0		11		0	0		0
TURBONILLA CONRADI		32	0		0		0	0		11
TURBONILLA INTERRUPTA		11	0		0		0	0		0
TURBONILLA DALLI		0	0		64		0	0		0
ACTEON PUNCTOSTRIATUS		0	0		0		0	11		0
ACTEON CANALICULATA		11	0		11		0	224		107
HAMINOE SUCCINEA		0	11		0		11	117		0
NUDIBRANCHIA SP.		0	11		0		0	0		0
DOSINIA DISCUS		0	11		0		0	0		0
APLACOPHORA SP. A		32	0		0		0	0		0
BIVALVIA SP.		32	0		0		0	0		11
NUCULA PROXIMA		149	0		21		0	0		11
NUCULANA ACUTA		203	0		11		0	0		0
ANADARA TRANSVERSA		21	0		0		0	0		0
GLYCYMERIS PECTINATA		11	0		0		0	0		0
MODIOLUS AMERICANUS		11	0		0		0	0		0
AMYGDALUM PAPHIUM		0	11		32		0	0		0
DIPLODONTA PUNCTATA		32	0		0		0	0		0
MYSELLA PLANULATA		0	0		32		0	0		11
CARDITAMERA FLORIDANA		11	0		0		0	0		0
CRASSINELLA LUNULATA		21	0		0		0	0		0
LAEVICARDIUM MORTONI		21	0		0		0	0		0
TRACHYCARDIUM MURICATUM		96	0		0		0	0		0
MULINIA LATERALIS		11	0		0		0	0		0
TELLINA SP.		32	0		11		0	11		0
TELLINA VERSICOLOR		32	0		0		0	0		0
TAGELUS DIVISUS		11	0		0		0	0		0
SEMELE BELLA STRIATA		64	0		0		0	0		0
SEMELE SP. (JUV.)		21	0		0		0	0		0
ABRA AEQUALIS		64	0		0		0	0		0
POLYMERIS CAROLINIANA		53	0		0		0	0		0
TRANSENNELLA CONRADINA		32	0		0		0	0		0
CHIONE GRUS		11	0		0		0	0		0
HYDRACARINA SP.		0	11		0		0	0		0
MYODOCOPA SP.		213	11		0		0	0		0
PARASTEROPE POLLEX		11	0		0		0	0		0
CALANOID COPEPODA		267	213		64		267	21		0
HARPACTICOID COPEPODA		21	0		32		0	32		0
BALANUS IMPROVISUS		0	21		0		0	0		53
BALANUS VENUSTUS		0	0		32		0	0		53
MYSIDOPSIS BIGELOWI		0	0		11		0	0		0
BOWMANIELLA SP.		11	0		0		0	0		0
CYCLASPIS SP. B		53	0		0		0	0		0
HARGERIA RAPAX		21	0		0		0	0		0
APANTHURA CF. SIGNATA		768	0		0		0	0		0
XENANTHURA BREVITELSON		0	85		11		64	0		0
CIROLANA PARVA		11	0		0		0	0		0
EURYDICE LITTORALIS		11	0		0		0	0		0
EDOTEA TRILOBA		0	0		11		0	0		0
AMPELISCA HOLMESI		0	0		11		0	0		0
AMPELISCA ABDITA		43	0		0		0	0		11

## BENTHOS ABUNDANCE BY STATION AND SPECIES

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NUMBER PER SQUARE METER  
OCTOBER 1983

SPECIES NAME	11	12	13	14	STATION 15	16	17	18	19	20
CYADUSA COMPTA	.	11	0	.	0	.	64	11	.	0
RILDARDANUS LAMINOSA	.	32	0	.	0	.	0	0	.	0
BATEA CF. CATHARINENSIS	.	0	0	.	11	.	0	0	.	0
COROPHIUM LACUSTRE	.	0	11	.	11	.	0	0	.	0
ERICTHONIUS BRASILIENSIS	.	11	11	.	0	.	11	0	.	11
GRANDIDIERELLA BONNIERIDES	.	64	256	.	0	.	0	0	.	11
ELASMOPUS LEVIS	.	0	43	.	0	.	0	0	.	0
MELITA LONGISETOSA	.	11	0	.	0	.	0	0	.	0
MELITA APPENDICULATA	.	11	0	.	0	.	0	0	.	0
PHOTIS MELANICUS	.	11	0	.	0	.	0	0	.	0
LISTRIELLA CF. BARNARDI	.	21	0	.	32	.	0	0	.	0
STENOTHOE CF. MINUTA	.	0	43	.	0	.	0	0	.	0
LUCONACIA INCERTA	.	11	0	.	0	.	0	0	.	0
TRACHYPENAEUS CONSTRICTUS	.	11	0	.	0	.	0	0	.	0
LUCIFER FAXONI	.	0	21	.	0	.	0	11	.	0
LEPTOCHELA SERRATORBITA	.	32	0	.	0	.	0	0	.	0
PERICLIMENES AMERICANUS	.	0	11	.	0	.	0	0	.	0
ALPHEUS SP.	.	0	0	.	0	.	11	0	.	0
HIPPOLYTE PLEURACANTHA	.	21	0	.	0	.	0	0	.	11
UPOGEBIA AFFINIS	.	11	0	.	0	.	0	0	.	0
PAGURIDAE SP.	.	448	0	.	0	.	0	0	.	11
PAGURUS BREVIDACTYLUS	.	21	11	.	0	.	0	0	.	0
PAGURUS GYMNOACTYLUS	.	21	0	.	0	.	0	0	.	0
BRACHYURA SP. (JUV.)	.	117	0	.	0	.	21	0	.	0
HETEROCRYPTA GRANULATA	.	11	0	.	0	.	0	0	.	0
PORTUNUS GIBBESII	.	0	0	.	11	.	0	0	.	0
XANTHIDAE SP.	.	21	21	.	0	.	0	0	.	0
NEOPANOPE TEXANA TEXANA	.	0	43	.	0	.	0	0	.	11
PINNOTHERIDAE SP.	.	64	0	.	11	.	21	0	.	0
PINNIXA PEARSEI	.	0	11	.	0	.	0	0	.	0
SIPUNCULA SP.	.	11	0	.	0	.	0	0	.	0
PHASCOLION SP.	.	53	0	.	43	.	0	0	.	11
PHORONIS ARCHITECTA	.	0	0	.	53	.	0	0	.	0
AMPHIURIDAE SP.	.	32	0	.	0	.	0	0	.	0
AMPHIPLUS ABDITUS	.	0	0	.	11	.	0	0	.	0
MICROPHOLIS GRACILLIMA	.	11	0	.	0	.	0	0	.	0
OPHIOTHRIX ANGULATA	.	11	0	.	0	.	0	0	.	0
HOLOTHUROIDEA SP.	.	21	0	.	0	.	0	0	.	0
ASCIDIACEA SP.	.	75	0	.	11	.	0	0	.	11
BRANCHIOSTOMA CARIBAEUM	.	43	0	.	0	.	0	0	.	0
TOTAL DENSITY	.	13493	2635	.	5088	.	9867	5664	.	5792
TOTAL NUMBER OF SPECIES	.	138	50	.	58	.	27	30	.	45

## BENTHOS ABUNDANCE BY STATION AND SPECIES

1

NUMBER PER SQUARE METER  
OCTOBER 1983

SPECIES NAME	21	22	23	24	25	26	27	28	29	30
PORIFERA SP.		11			11	0	0		32	11
HYDROZOA SP.		0			0	32	53		11	0
ATHENARIA		0			0	0	0		32	75
THENARIA SP.		0			0	11	0		0	64
PLATYHELMINTHES SP.		0			0	11	0		0	0
STYLOCHUS SP.		0			0	21	0		43	21
EUPLANA GRACILIS		0			0	0	0		21	0
NEMERTINA SP. = RHYNCHOCOELA		85			213	331	21		277	597
NEMATODA		0			1077	1728	331		1941	3904
POLYNOID SP.		0			11	0	0		0	0
LEPIDONOTUS SUBLEVIS		0			0	11	0		0	0
LEPIDASTHENIA VARIUS		0			0	11	0		0	0
LEPIDAMETRIA COMMENSALIS		0			0	0	0		75	0
POLYNOID GENUS D		32			53	21	0		0	0
POLYNOID GENUS B		21			0	0	0		11	0
STHENELAIS OBLIQUIS		53			53	0	0		0	0
PALEANOTUS HETEROSETA		0			0	21	0		0	0
PARAMPHINOME SP. B		0			320	0	0		0	0
PHYLLODOCIDAE SP.		0			11	0	0		0	0
PHYLLODOCE CASTANEA		0			0	11	0		43	53
PHYLLODOCE ARENAE		0			0	0	0		21	43
ETEONE HETEROPODA		0			21	0	0		32	0
EULALIA SANGUINEA		0			11	21	0		0	0
PARANAITIS POLYNOIDES		0			11	0	0		0	0
GYPTIS BREVIPALPA		21			64	0	11		32	75
ANCISTROSYLLIS CF. HAMATA		0			0	0	0		21	0
ANCISTROSYLLIS JONESI		0			32	0	0		0	0
CABIRA INCERTA		0			21	0	0		0	0
AUTOLYTUS DENTALIUS		0			0	11	11		0	64
TYPOSYLLIS SP.		0			0	32	0		43	0
TYPOSYLLIS PROLIFERA		0			0	0	0		981	0
TYPOSYLLIS CF. LUTEA		0			0	11	181		203	32
EXOgone DISPAR		0			96	224	64		117	1525
EXOgone LOUREI		0			0	277	0		128	0
EXOgone ATLANTICA		0			0	11	0		0	0
SPHAEROSYLLIS SPP.		0			0	21	0		21	0
SPHAEROSYLLIS TAYLORI		0			11	0	0		96	181
BRANIA WELFLEETENSIS		0			43	53	0		0	11
BRANIA CLAVATA		0			11	0	0		0	0
EHLERSIA CORNUTA		0			11	53	117		235	107
HAPLOSYLLIS SPONGICOLA		0			0	832	0		11	0
ODONTOSYLLIS ENOPLA		0			21	0	0		0	0
STREPTOSYLLIS PETTIBONEAE		0			0	32	11		0	0
PARAPLANSYLLIS LONGICIRRATA		0			21	64	0		0	0
NEREIDAE SP.		0			11	0	0		0	0
CERATONEREIS IRRATABILIS		0			107	171	0		0	0
NEANTHES MICROMMA		32			203	75	0		160	309
NEANTHES ACUMINATA		0			0	0	139		0	0
NEANTHES SUCCINEA		0			21	11	0		85	0
NEREIS SP.		0			21	0	0		0	0
LAONEREIS CULVERI		0			0	0	0		0	43
NEPHTYS SIMONI		21			107	0	0		0	0
GLYCERIDAE SP.		0			43	64	0		0	0



## BENTHOS ABUNDANCE BY STATION AND SPECIES

2

NUMBER PER SQUARE METER  
OCTOBER 1983

SPECIES NAME	21	22	23	24	STATION		27	28	29	30
GLYCERA AMERICANA	.	11	.	.	0	32	0	.	43	0
GLYCERA DIBRANCHIATA	.	0	.	.	0	21	0	.	0	0
HEMIPODUS ROSEUS	.	75	.	.	0	11	0	.	0	0
GLYCIDAE SOLITARIA	.	0	.	.	0	0	11	.	43	149
GONIADIDES CAROLINAE	.	0	.	.	1077	1131	0	.	0	21
ONUPHIDAE SP.	.	11	.	.	43	0	0	.	0	0
DIOPATRA CUPREA	.	0	.	.	0	11	0	.	11	0
KINBERGONUPHIS SIMONI	.	0	.	.	0	0	0	.	75	203
MOOREONUPHIS NEBULOSA	.	0	.	.	11	0	0	.	0	0
EUNICE TENUIS	.	0	.	.	0	0	0	.	21	0
MARPHYSA SANGUINEA	.	0	.	.	0	0	21	.	32	0
LUMBRINERIS VERRILLI	.	171	.	.	149	341	0	.	341	981
LUMBRINERIS SP. D	.	0	.	.	0	11	0	.	0	21
DRILONEREIS LONGA	.	0	.	.	11	11	0	.	11	0
ARABELLA MUTANS	.	0	.	.	0	0	0	.	0	11
SCHISTOMERINGOS RUDOLPHI	.	11	.	.	21	0	0	.	11	0
PETTIBONEIA SP. A	.	0	.	.	21	0	0	.	0	11
ORBINIIDAE SP.	.	0	.	.	0	0	0	.	21	0
HAPLOSCOLOPLOS FOLIOSUS	.	0	.	.	0	0	0	.	0	21
HAPLOSCOLOPLOS FRAGILIS	.	64	.	.	11	11	0	.	0	0
HAPLOSCOLOPLOS SP.	.	0	.	.	11	0	0	.	0	0
NAINERIS BICORNIS	.	0	.	.	0	11	0	.	21	0
NAINERIS DENDRITICA	.	0	.	.	0	0	11	.	0	0
SCOLOPLOS RUBRA	.	85	.	.	53	53	21	.	555	181
ORBINIA RISERII	.	0	.	.	11	0	0	.	0	0
ARICIDEA PHILBINAE	.	0	.	.	0	11	981	.	21	491
ARICIDEA TAYLORI	.	565	.	.	96	96	0	.	736	107
ARICIDEA SP. C	.	11	.	.	53	43	0	.	0	21
ARICIDEA CATHERINAE	.	0	.	.	0	11	0	.	11	0
ARICIDEA FRAGILIS	.	21	.	.	11	0	0	.	0	32
CIRROPHORUS LYRA	.	75	.	.	459	288	0	.	160	0
SPIONIDAE SP.	.	0	.	.	11	0	0	.	0	0
POLYDORA LIGNI	.	0	.	.	0	0	0	.	11	0
POLYDORA SOCIALIS	.	32	.	.	85	203	0	.	1269	277
POLYDORA WEBSTERI	.	0	.	.	0	0	416	.	0	0
PRIONOSPIO HETEROBRANCHIA	.	0	.	.	0	0	544	.	75	96
PRIONOSPIO CRISTATA	.	0	.	.	11	107	0	.	0	0
PRIONOSPIO SP.	.	0	.	.	11	0	0	.	0	0
SPIO PETTIBONEAE	.	0	.	.	0	203	0	.	11	11
CARAZIELLA HOBSONAE	.	21	.	.	277	75	0	.	0	0
PARAPRIONOSPIO PINNATA	.	523	.	.	11	0	0	.	235	373
STREBLOSPIO BENEDICTI	.	149	.	.	11	11	1227	.	683	117
APOPRIONOSPIO PYGMAEA	.	11	.	.	11	11	0	.	0	0
SCOLELEPIS TEXANA	.	96	.	.	0	0	0	.	32	107
SCOLELEPIS SQUAMATA	.	11	.	.	0	0	0	.	32	0
MINUSPIO CIRRIFERA	.	32	.	.	11	75	0	.	128	0
BOCCARDIELLA SP. A	.	0	.	.	0	0	21	.	2453	0
MAGELONA PETTIBONEAE	.	11	.	.	0	0	0	.	11	11
MAGELONA CF CINCTA	.	0	.	.	0	21	0	.	0	0
POECILOCHAETUS JOHNSONI	.	0	.	.	32	107	0	.	0	32
SPIOCHAETOPTERUS C. Oculatus	.	75	.	.	75	0	0	.	11	96
CAULLERIELLA SP.	.	0	.	.	277	213	0	.	21	0
THARYX ANNULOSUS	.	608	.	.	213	107	395	.	597	608

## BENTHOS ABUNDANCE BY STATION AND SPECIES

3

NUMBER PER SQUARE METER  
OCTOBER 1983

SPECIES NAME	21	22	23	24	25	26	27	28	29	30
CAPITELLA CAPITATA		0			0	0	128		0	0
NOTOMASTUS LATERICEUS		0			117	0	0		0	0
MEDIOMASTUS CALIFORNIENSIS		0			53	747	0		4459	235
MEDIOMASTUS SP.		181			459	0	21		0	2656
CLYMENELLA TORQUATA		32			11	0	0		0	0
MALDANE GLEBIFEX		11			0	0	0		0	0
AXIOHELLA MUCOSA		0			32	75	11		0	245
OWENIA FUSIFORMIS		0			0	11	0		0	0
MYRIOCHELE OCULATA		21			288	171	0		43	2560
SABELLARIA VULGARIS		0			0	160	0		0	341
PECTINARIA GOULDII		21			0	0	0		75	75
ISOLDA PULCHELLA		0			0	11	0		0	11
PISTA CRISTATA		11			0	11	0		0	0
PISTA QUADRILOBATA		0			0	53	11		0	0
POLYCIRRUS SP.		0			149	0	0		0	107
THELEPUS SETOSUS		0			0	0	43		352	32
LOIMIA MEDUSA		0			43	0	0		0	21
TEREBELLA RUBRA		0			0	11	0		0	0
AMAEANA TRILOBATA		0			53	0	0		0	0
CHONE AMERICANA		0			21	501	21		53	75
MEGALOMMA BIOCULATUM		0			11	11	0		0	0
FABRICIA SABELLA		0			11	1141	32		480	6763
HYPsicOMUS PHAEOTAENIA		0			0	0	0		96	0
SERPULIDAE SP.		0			0	0	32		0	43
SPIRORBIS SPIRILLUM		0			0	0	1536		0	0
HYDROIDES DIANTHUS		0			0	11	0		160	32
FILOGRANA IMPLEXA		0			0	0	0		20843	0
POLYGORDIUS SP.		0			43	0	0		0	0
OLIGOCHAETE		53			1397	117	693		1088	576
SOLARIOBIS SHIMERI		0			0	0	0		64	0
CAECUM PULCHELLUM		0			0	0	512		416	1045
CAECUM STRIGOSUM		0			0	0	0		21	0
CAECUM PLICATUM		0			0	0	0		0	11
DIASTOMA VARIUM		0			0	0	181		0	0
EPTONIUM FOLIACEICOSTUM		0			0	11	0		0	0
CREPIDULA PLANA		11			32	203	0		939	2507
CREPIDULA MACULOSA		0			0	0	1013		0	11
NATICA PUSILLA		0			0	11	0		0	0
POLINICES DUPLICATUS		0			11	0	0		0	0
MITRELLA LUNATA		32			21	21	299		0	96
ANACHIS OBESA		0			0	0	0		21	0
ANACHIS SEMIPLICATA		0			0	0	11		0	0
CANTHARUS CANCELLARIUS		0			21	32	0		0	0
NASSARIUS VIBEX		21			0	0	43		0	43
OLIVELLA SP. A		11			0	0	0		0	0
OLIVELLA SP. B		11			32	43	0		0	11
OLIVELLA MINUTA		0			0	0	64		0	11
GRANULINA OVULIFORMIS		0			0	0	64		0	32
MARGINELLA APICINA		0			0	0	128		0	43
MARGINELLA LAVALLEEANA		0			0	0	0		0	75
ODOSTOMIA IMPRESSA		0			0	0	128		0	0
ODOSTOMIA BISUTURALIS		0			0	0	11		0	0
TURBONILLA SP.		53			0	0	0		21	0

## BENTHOS ABUNDANCE BY STATION AND SPECIES

4

NUMBER PER SQUARE METER  
OCTOBER 1983

SPECIES NAME	21	22	23	24	25	26	27	28	29	30
TURBONILLA CONRADI	.	11	.	.	0	0	0	.	0	181
ACTEON PUNCTOSTRIATUS	.	21	.	.	0	0	0	.	0	0
ACTEOCINA CANALICULATA	.	171	.	.	32	0	11	.	288	277
PHILINE INFUNDIBULUM	.	0	.	.	0	0	0	.	0	11
HAMINOE SUCCINEA	.	0	.	.	0	0	0	.	0	11
APLYSIIIDAE SP.	.	0	.	.	0	0	11	.	0	11
NUDIBRANCHIA SP.	.	0	.	.	0	0	0	.	0	43
DORIDIIDAE	.	0	.	.	0	0	0	.	0	53
DOSINIA DISCUS	.	0	.	.	0	11	0	.	0	11
APLACOPHORA SP. A	.	0	.	.	0	11	0	.	0	0
BIVALVIA SP.	.	0	.	.	0	139	0	.	0	0
NUCULA PROXIMA	.	11	.	.	43	21	0	.	0	128
NUCULANA ACUTA	.	21	.	.	75	160	0	.	0	11
MUSCULUS LATERALIS	.	0	.	.	0	11	0	.	0	75
BRACHYDONTES EXUSTUS	.	0	.	.	0	0	0	.	75	96
AMYGDALUM PAPYRIUM	.	0	.	.	0	11	21	.	21	11
CRASSOSTREA VIRGINICA	.	0	.	.	0	43	64	.	1621	21
DIPLODONTA PUNCTATA	.	0	.	.	64	203	0	.	0	11
ERYCINA SP.	.	0	.	.	0	75	0	.	0	0
MYSELLA PLANULATA	.	0	.	.	128	32	11	.	11	160
ALIGENA TEXASIANA	.	0	.	.	53	0	0	.	0	0
NEAEROMYA FLORIDANA	.	32	.	.	85	0	0	.	0	0
CARDITAMERA FLORIDANA	.	0	.	.	0	0	64	.	0	0
CRASSINELLA LUNULATA	.	0	.	.	11	32	0	.	0	11
LAEVICARDIUM MORTONI	.	0	.	.	0	21	0	.	21	139
TRACHYCARDIUM MURICATUM	.	0	.	.	0	11	0	.	0	11
MACTRA FRAGILIS	.	0	.	.	0	0	0	.	0	11
TELLINA VERSICOLOR	.	0	.	.	107	32	0	.	0	43
TELLINA TEXANA	.	0	.	.	0	64	0	.	0	0
TAGELUS DIVISUS	.	0	.	.	192	64	0	.	0	43
SEMELE BELLASTRIATA	.	0	.	.	0	21	0	.	21	43
SEMELE PROFICUA	.	0	.	.	0	0	0	.	0	85
SEMELE PURPURASCENS	.	0	.	.	0	128	0	.	0	0
ABRA AEQUALIS	.	11	.	.	224	75	0	.	0	21
POLYMESODA CAROLINIANA	.	0	.	.	0	53	0	.	0	21
TRANSENNELLA CONRADINA	.	0	.	.	0	0	0	.	0	43
MERCENARIA CAMPECHIENSIS	.	0	.	.	11	0	0	.	0	0
CHIONE CANCELLATA	.	0	.	.	0	21	0	.	0	0
CORBULA CONTRACTA	.	0	.	.	0	75	0	.	0	21
PHOLADIDAE SP.	.	0	.	.	0	32	0	.	0	0
PANDORA SP. (JUV.)	.	0	.	.	0	11	0	.	0	0
LYONSIA HYALINA FLORIDANA	.	11	.	.	0	21	0	.	21	128
DENTALIUM LAQUEATUM	.	0	.	.	0	11	0	.	0	0
MYODOCOPA SP.	.	11	.	.	107	192	32	.	0	277
PODOCOPA SPP.	.	0	.	.	0	11	0	.	0	11
CALANOID COPEPODA	.	11	.	.	32	135	523	.	64	363
HARPACTICOID COPEPODA	.	21	.	.	53	64	0	.	32	469
CYCLOPOID COPEPODA	.	0	.	.	0	11	0	.	0	0
BALANUS IMPROVISUS	.	0	.	.	0	0	32	.	0	0
BALANUS VENUSTUS	.	0	.	.	0	0	0	.	0	331
MYSIDOPSIS BIGELOWI	.	21	.	.	0	0	0	.	0	0
LEUCON SP. A	.	11	.	.	0	0	0	.	0	0
OXYUROSTYLIS SMITHI	.	0	.	.	21	11	0	.	0	0



## BENTHOS ABUNDANCE BY STATION AND SPECIES

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NUMBER PER SQUARE METER  
OCTOBER 1983

SPECIES NAME	21	22	23	24	STATION 25	26	27	28	29	30
CYCLASPIS SP. B		0			0	11	0		0	0
VAUNTHOMPSONIA SP.		0			0	0	0		0	43
KALLIAPSEUDES SP. A		0			203	203	11		0	0
HARGERIA RAPAX		0			0	11	0		0	0
APANTHURA MAGNIFICA		11			0	256	0		160	96
APANTHURA CF. SIGNATA		0			0	96	0		0	0
XENANTHURA BREVITELSON		0			0	0	0		0	32
PANANTHURA FORMOSA		0			0	0	0		107	0
EURYDICE LITTORALIS		0			0	11	0		0	0
PARACERCEIS CAUDATA		0			0	11	0		0	11
ERICHSONELLA CF. ATTENUATA		0			0	0	11		0	11
EDOTEA TRILOBA		0			0	0	0		11	11
AMPELISCA HOLMESI		11			235	0	11		53	21
AMPELISCA AGASSIZI		0			0	0	0		0	11
AMPELISCA ABDITA		0			64	0	64		11	128
GITANOOPSIS SP.		0			0	32	181		0	0
CYMA DUSA COMPTA		0			0	0	1280		0	0
LEMBOS SMITHI		0			0	21	0		0	11
ACUMINODEUTOPUS NAGLEI		0			53	53	0		0	11
RILDARDANUS LAMINOSA		0			0	64	0		0	0
BATEA CF. CATHARINENSIS		0			0	0	21		0	0
COLOMASTIX HALICHONDRIAE		0			0	21	0		0	0
COLOMASTIX SP.		0			0	11	0		0	0
CERAPUS SP. A		0			0	0	0		0	128
COROPHIUM LOUISIANUM		0			405	0	0		0	75
COROPHIUM ACHERUSICUM		0			0	0	0		373	0
COROPHIUM LACUSTRE		0			0	11	11		0	0
ERICHTHONIUS BRASILIENSIS		0			0	149	395		0	139
GRANDIDIERELLA BONNIEROIDES		0			0	32	448		203	309
ELASMOPUS LEVIS		0			0	213	0		0	0
MELITA ELONGATA		0			0	0	32		171	0
PHOTIS MELANICUS		0			43	0	0		0	0
PHOTIS MACROMANUS		0			11	0	0		0	0
LEUCOTHOE CF. SPINICARPA		0			0	21	11		0	0
LITRIELLA CF. BARNARDI		11			128	85	0		11	128
MONOCULODES NYEI		0			11	0	0		0	0
EUDEVENOPUS HONDURANUS		0			0	0	0		0	11
EOBROLGUS SPINOSUS		0			0	0	0		43	0
PODOCERUS SP.		0			0	0	0		11	0
PARACAPRELLA TENUIS		0			11	11	0		0	96
TRACHYPENAEUS CONSTRICTUS		0			0	11	0		0	11
LUCIFER FAXONI		43			0	11	11		11	0
LEPTOCHELA SERRATORBITA		0			0	11	11		11	85
PERICLIMENES LONGICAUDATUS		0			0	0	32		0	0
PERICLIMENES AMERICANUS		0			0	0	75		0	0
PALAEON FLORIDANUS		0			0	0	11		0	0
ALPHEUS HETEROCHAEILIS		0			0	0	0		11	0
ALPHEUS SP.		0			0	0	0		11	0
ALPHEUS NORMANNI		0			0	0	0		0	11
HIPPOLYTE PLEURACANTHA		0			0	0	352		0	0
UPONEBIA AFFINIS		0			21	0	0		53	75
CALLIANASSA ATLANTICA		0			32	0	0		0	0
CALLIANASSA SP.		0			0	85	0		0	0

## BENTHOS ABUNDANCE BY STATION AND SPECIES

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NUMBER PER SQUARE METER  
OCTOBER 1983

SPECIES NAME	STATION									
	21	22	23	24	25	26	27	28	29	30
PAGURIDAE SP.		0			21	107	0		32	171
PAGURUS BREVIDACTYLUS		0			0	0	21		11	53
PETROLISTHES ARMATUS		0			0	21	0		171	0
EUCERAMUS PRAELONGUS		0			0	11	0		0	0
BRACHYURA SP. (JUV.)		43			437	213	0		43	171
HYPOCONCHA SABULOSA		0			0	11	0		0	0
MAJIDAE SP. (JUV.)		0			0	32	0		0	0
LIBINIA EMARGINATA		0			11	0	0		0	0
HETEROCRYPTA GRANULATA		0			0	21	0		0	21
PELIA MUTICA		0			0	11	0		0	0
PORTUNUS GIBBESII		0			0	0	0		0	11
XANTHIDAE SP.		0			0	53	181		43	43
EURYPANOPEUS DEPRESSUS		0			0	0	0		149	0
NEOPANOPE TEXANA TEXANA		0			0	0	21		0	0
PANOPEUS HERBSTII		0			0	32	0		85	21
MICROPANOPE NUTTINGI		0			0	0	21		0	0
EURYPLAX NITIDA		0			0	11	0		0	0
PINNOTHERIDAE SP.		11			96	267	21		11	21
PINNIXA CHAETOPTERANA		0			11	43	0		0	0
PINNIXA RETINENS		0			0	0	0		0	11
SIPUNCULA SP.		0			0	0	0		21	0
PHASCOLION SP.		21			11	11	64		0	43
PHORONIS ARCHITECTA		11			11	0	0		0	11
BRYOZOA SP. = ECTOPROCTA		0			0	32	0		53	21
GLOTTIDIA PYRAMIDATA		0			0	21	0		11	75
OPHIOLEPIS ELEGANS		0			0	43	0		0	0
OPHIODERMA SP.		0			11	0	0		0	0
HEMIPHOLIS ELONGATA		0			11	0	0		0	0
AMPHIURIDAE SP.		53			75	85	0		0	53
AMPHIODIA PULCHELLA		0			0	11	0		0	0
AMPHIOPLUS ABDITUS		11			0	0	0		0	0
MICROPHOLIS GRACILLIMA		75			107	0	0		0	0
OPHIOTHRIX ANGULATA		0			0	0	0		11	0
HOLOTHUROIDEA SP.		0			11	21	0		0	0
HOLOTHURIIDAE SP.		0			0	0	0		0	53
ASCIDIACEA SP.		0			0	11	0		21	0
MOLGULIDAE SP.		0			0	0	0		0	75
BRANCHIOSTOMA FLORIDAE		0			75	85	0		0	11
HIPPOCAMPUS ZOSTERAE		0			0	0	11		0	0
SYMPHURUS PLAGIUSA		0			0	0	11		0	0
TOTAL DENSITY		4075			11851	15147	13653		45568	34240
TOTAL NUMBER OF SPECIES		67			116	154	76		110	139

## BENTHOS ABUNDANCE BY STATION AND SPECIES

1

NUMBER PER SQUARE METER  
OCTOBER 1983

SPECIES NAME	31	32	33	34	STATION 35	36	37	38	39	40
HYDROZOA SP.	0	.	0	.	21	.	0	.	.	.
ATHENARIA	0	.	11	.	0	.	0	.	.	.
THENARIA SP.	0	.	0	.	21	.	0	.	.	.
POLYCLADIDA SP.	0	.	0	.	21	.	0	.	.	.
STYLACHUS SP.	21	.	0	.	43	.	21	.	.	.
NEMERTINA SP. -RHYNCHOCOELA	107	.	149	.	416	.	363	.	.	.
NEMATODA	128	.	427	.	8672	.	2677	.	.	.
LEPIDONOTUS SUBLEVIS	0	.	0	.	0	.	21	.	.	.
POLYNOID GENUS D	11	.	21	.	53	.	11	.	.	.
POLYNOID GENUS B	0	.	0	.	0	.	11	.	.	.
SIGALIONIDAE	0	.	0	.	0	.	11	.	.	.
STHENELAIS OBLIQUIS	0	.	11	.	0	.	117	.	.	.
PARAMPHINOME SP. B	0	.	0	.	203	.	21	.	.	.
PHYLLODOCIDAE SP.	0	.	0	.	0	.	21	.	.	.
PHYLLODOCE CASTANEA	0	.	0	.	53	.	64	.	.	.
PHYLLODOCE ARENAE	0	.	11	.	21	.	21	.	.	.
ETEONE HETEROPODA	0	.	0	.	0	.	21	.	.	.
EULALIA SANGUINEA	0	.	0	.	32	.	53	.	.	.
GYPTIS BREVIPALPA	53	.	21	.	160	.	32	.	.	.
PARAHESIONE LUTEOLA	11	.	0	.	0	.	0	.	.	.
PODARKE OBSCURA	0	.	0	.	53	.	0	.	.	.
ANCISTROSYLLIS HARTMANAE	0	.	0	.	11	.	0	.	.	.
AUTOLYTUS DENTALIUS	0	.	0	.	11	.	0	.	.	.
TYPOSYLLIS CF. LUTEA	21	.	11	.	11	.	0	.	.	.
EXOGONE DISPAR	0	.	53	.	736	.	117	.	.	.
EXOGONE LOUREI	267	.	0	.	139	.	0	.	.	.
SPHAEROSYLLIS SPP.	21	.	0	.	267	.	11	.	.	.
SPHAEROSYLLIS TAYLORI	0	.	0	.	139	.	160	.	.	.
BRANIA SP.	0	.	0	.	0	.	11	.	.	.
BRANIA WELFLEETENSIS	0	.	0	.	11	.	0	.	.	.
BRANIA CLAVATA	43	.	0	.	11	.	0	.	.	.
EHLERSIA CORNUTA	0	.	11	.	107	.	11	.	.	.
EHLERSIA FERRUGINA	0	.	0	.	32	.	0	.	.	.
HAPLOSYLLIS SPONGICOLA	0	.	0	.	11	.	0	.	.	.
ODONTOSYLLIS ENOPLA	11	.	0	.	11	.	139	.	.	.
SYLLIDES FLORIDANUS	0	.	0	.	32	.	0	.	.	.
STREPTOSYLLIS PETTIBONEAE	0	.	0	.	149	.	21	.	.	.
PARAPIONOSYLLIS LONGICIRRATA	0	.	0	.	256	.	11	.	.	.
NEREIDAE SP.	0	.	0	.	0	.	320	.	.	.
CERATONEREIS IRRATABILIS	0	.	0	.	32	.	181	.	.	.
NEANTHES MICROMMA	0	.	32	.	11	.	373	.	.	.
NEANTHES SUCCINEA	64	.	0	.	11	.	0	.	.	.
NEREIS RIISEI	11	.	0	.	0	.	0	.	.	.
PLATYNEREIS DUMERILII	0	.	11	.	0	.	0	.	.	.
LAONEREIS CULVERI	0	.	21	.	0	.	32	.	.	.
NEPHTYS SIMONI	0	.	0	.	0	.	32	.	.	.
AGLAOPHAMUS VERRILLI	0	.	11	.	0	.	0	.	.	.
GLYCERA AMERICANA	11	.	21	.	0	.	0	.	.	.
GLYCERA DIBRANCHIATA	21	.	0	.	0	.	0	.	.	.
HEMIPODUS ROSEUS	0	.	0	.	245	.	0	.	.	.
GLYCINDE SOLITARIA	203	.	64	.	21	.	0	.	.	.
GONIADIDES CAROLINAE	0	.	0	.	2421	.	800	.	.	.
DIOPATRA CUPREA	11	.	0	.	0	.	0	.	.	.

## BENTHOS ABUNDANCE BY STATION AND SPECIES

2

NUMBER PER SQUARE METER  
OCTOBER 1983

SPECIES NAME	31	32	33	34	STATION 35	36	37	38	39	40
KINBERGONUPHIS SIMONI	53		32		331		32			
MOOREONUPHIS NEBULOSA	0		0		117		0			
LUMBRINERIS SP. B	0		32		0		0			
LUMBRINERIS VERRILLI	43		341		160		1557			
LUMBRINERIS SP. D	0		0		21		21			
DRILONEREIS LONGA	21		0		0		0			
ARABELLA IRICOLOR	0		0		43		0			
DORVILLEA SOCIABILIS	0		0		128		0			
SCHISTOMERINGOS RUDOLPHI	21		0		32		0			
PETTIBONEIA SP. A	0		11		0		32			
HAPLOSCOLOPLOS FOLIUSUS	11		0		0		64			
HAPLOSCOLOPLOS FRAGILIS	11		11		0		0			
HAPLOSCOLOPLOS SP.	0		11		0		0			
SCOLOPLOS RUBRA	43		11		21		64			
ORBINIA RISERII	0		0		11		32			
ARICIDEA PHILBINA	181		245		43		235			
ARICIDEA TAYLORI	11		75		11		32			
ARICIDEA SP. C	0		0		11		0			
ARICIDEA CATHERINAE	21		0		0		21			
ARICIDEA FRAGILIS	0		0		0		21			
CIRROPHORUS LYRA	32		96		811		203			
POLYDORA SOCIALIS	11		0		149		21			
POLYDORA WEBSTERI	0		139		0		0			
PRIONOSPIO HETEROBRANCHIA	11		11		213		43			
PRIONOSPIO CRISTATA	11		0		0		0			
SPIO PETTIBONEAE	0		0		0		21			
CARAZIELLA HOBSONAE	395		0		32		0			
PARAPRIONOSPIO PINNATA	555		235		0		32			
STREBLOSPIO BENEDICTI	299		0		0		0			
APOPRIOSPION PYGMAEA	11		0		43		181			
SCOLELEPIS TEXANA	53		32		11		0			
MINUSPIO CIRRIFERA	0		0		11		32			
BOCCARDIELLA SP. A	0		0		0		107			
MAGELONA PETTIBONEAE	53		11		0		0			
POECILOCHAETUS JOHNSONI	0		0		309		21			
SPIOCHAETOPTERUS C. OCULATUS	85		64		21		85			
CIRRATULIDAE SP.	0		0		0		64			
CAULLERIELLA SP.	373		0		1099		683			
THARYX ANNULOSUS	320		363		0		85			
CHAETOZONE SP.	0		0		0		128			
ACROCIRRUS FRONTIFILIS	0		0		11		0			
ARMANDIA MACULATA	0		0		43		11			
CAPITELLA CAPITATA	0		0		85		0			
HETEROMASTUS FILIFORMIS	43		0		0		0			
NOTOMASTUS LATERICEUS	0		21		11		0			
MEDIOMASTUS AMBISETA	43		0		0		0			
MEDIOMASTUS CALIFORNIENSIS	0		0		213		0			
MEDIOMASTUS SP.	256		139		811		2272			
ASYCHIS ELONGATA	21		0		0		0			
CLYMENELLA TORQUATA	0		11		0		11			
AXIOTHELLA MUCOSA	11		0		2581		21			
OWENIA FUSIFORMIS	43		0		0		0			
MYRIOCHELE OCULATA	11		96		0		800			

## BENTHOS ABUNDANCE BY STATION AND SPECIES

3

NUMBER PER SQUARE METER  
OCTOBER 1983

SPECIES NAME	31	32	33	34	STATION 35	36	37	38	39	40
SABELLARIA VULGARIS	0		64		32		0			
PECTINARIA GOULDII	43		0		0		0			
AMPHARETIDAE SP.	0		0		0		11			
ISOLDA PULCHELLA	0		0		21		0			
TEREBELLIDAE UNID. SP.	11		0		0		0			
PISTA QUADRILOBATA	32		0		0		21			
POLYCIRRUS SP.	0		0		224		11			
THELEPUS SETOSUS	0		0		0		11			
LOIMIA MEDUSA	0		0		0		11			
AMAEANA TRILOBATA	11		0		0		0			
TEREBELLIDES STROEMI	0		0		0		21			
CHONE AMERICANA	53		0		128		85			
MEGALOMMA BIOCULATUM	0		0		0		11			
FABRICIA SABELLA	0		53		1259		171			
SPIRORBIS SPIRILLUM	0		64		0		0			
VERMILIOPSIS SP.	85		0		0		0			
BOGUEA ENIGMATICA	53		0		0		0			
BOGUEA SP. A	0		11		11		0			
POLYGORDIUS SP.	0		0		11		0			
OLIGOCHAETE	619		576		1835		459			
CIRCULUS SUPPRESSUS	11		0		0		0			
CAECUM PULCELLUM	0		0		565		0			
CAECUM STRIGOSUM	0		0		0		11			
CAECUM PLICATUM	0		0		11		0			
DIASTOMA VARIUM	0		96		0		0			
SCHWENGELIA FLORIDANA	0		0		0		11			
MELANELLA INTERMEDIA	0		11		0		11			
CREPIDULA PLANA	0		0		480		43			
CREPIDULA MACULOSA	53		21		0		0			
MITRELLA LUNATA	11		21		0		32			
ANACHIS OBESA	0		0		0		11			
CANTHARUS CANCELLARIUS	11		0		0		53			
MASSARIUS VIBEX	11		11		0		0			
OLIVELLA SP. B	0		32		11		224			
OLIVELLA MINUTA	11		21		0		11			
GRANULINA OVULIFORMIS	117		235		0		0			
MARGINELLA APICINA	0		0		32		11			
MARGINELLA LAVALLEEANA	0		43		0		0			
TEREBRA PROTEXTA	0		0		0		11			
ODOSTOMIA IMPRESSA	11		11		0		0			
ODOSTOMIA BISUTURALIS	21		0		0		0			
TURBONILLA SP.	0		0		11		0			
TURBONILLA CONRADI	0		107		0		11			
ACTEON PUNCTOSTRIATUS	11		0		11		0			
ACTEOCINA CANALICULATA	2816		117		0		11			
HAMINOE SUCCINEA	789		11		0		0			
DORIDIIDAE	11		0		0		0			
POLYPLACOPHORA SP.	0		0		85		0			
CHAETOPLEURA APICULATA	0		0		11		0			
APLACOPHORA SP. A	0		0		0		11			
BIVALVIA SP.	0		0		43		43			
NUCULA PROXIMA	0		21		11		139			
NUCULANA ACUTA	0		11		0		395			

## BENTHOS ABUNDANCE BY STATION AND SPECIES

4

NUMBER PER SQUARE METER  
OCTOBER 1983

SPECIES NAME	31	32	33	34	STATION 35	36	37	38	39	40
ANADARA TRANSVERSA	0		0		11		21			
BRACHYDONTES EXUSTUS	21		0		5035		0			
AMYGDALUM PAPHIUM	11		0		21		0			
LIMA SP.	0		0		11		11			
CRASSOSTREA VIRGINICA	0		0		85		0			
LUCINA NASSULA	0		43		0		0			
DIPLODONTA PUNCTATA	0		21		0		128			
MYSELLA PLANULATA	43		0		160		11			
CRASSINELLA LUNULATA	0		0		0		21			
LAEVICARDIUM MORTONI	43		0		85		0			
TELLINA VERSICOLOR	0		21		0		373			
TELLINA TEXANA	0		0		21		0			
TAGELUS DIVISUS	0		0		53		139			
SEMELE PURPURASCENS	0		0		11		0			
ABRA AEQUALIS	0		11		0		523			
POLYMESODA CAROLINIANA	0		0		11		11			
MERCENARIA CAMPECHIENSIS	0		0		0		21			
CORBULA CONTRACTA	0		0		64		0			
PHOLADIDAE SP.	0		0		11		0			
LYONSIA HYALINA FLORIDANA	43		0		0		32			
CARDIOMYA GEMMA	0		0		0		11			
DENTALIUM LAQUEATUM	0		11		0		21			
HYDRACARINA SP.	0		0		0		11			
ANOPIODACTYLUS PETIOLATUS	0		0		11		0			
MYODOCOPA SP.	128		181		245		907			
PARASTEROPE POLLEX	75		0		0		32			
HAPLOCYTHERIDA SETIPUNCTATA	0		0		0		11			
CALANOID COPEPODA	0		11		139		373			
HARPACTICOID COPEPODA	43		43		203		43			
BALANUS VENUSTUS	0		0		9984		0			
OXYUROSTYLIS SMITHI	0		0		0		43			
CUMELLA SP. A.	0		11		0		0			
CYCLASPIS SP. B.	0		0		11		21			
YAUNTHOMPSONIA SP.	0		0		53		11			
CALOZODION WADEI	0		0		32		0			
KALLIAPSEUDES SP. A.	0		0		32		21			
APANTHURA MAGNIFICA	0		0		32		64			
APANTHURA CF. SIGNATA	0		0		459		0			
HOROLANTHURA IRPEX	0		0		21		0			
ERICHSONELLA CF. ATTENUATA	0		11		0		0			
EDOTEA MONTOSA	11		0		0		0			
EDOTEA TRILOBA	0		11		0		0			
MUNNA CF. HAYESI	0		0		0		11			
AMPELISCA HOLMESI	85		0		0		64			
AMPELISCA SP. C	0		0		0		21			
AMPELISCA ABDITA	11		0		0		21			
GITANOPSIS SP.	0		0		11		0			
AMPHITHOE LONGIMANA	0		11		32		0			
CYMAIDUSA COMPTA	11		0		0		0			
LEMBOS SMITHI	0		0		0		11			
ACUMINODEUTOPUS NAGLEI	0		0		43		43			
BATEA CF. CATHARINENSIS	11		75		0		0			
CERAPUS SP. A	0		0		0		11			



## BENTHOS ABUNDANCE BY STATION AND SPECIES

5

NUMBER PER SQUARE METER  
OCTOBER 1983

SPECIES NAME	31	32	33	34	STATION 35	36	37	38	39	40
COROPHIUM LACUSTRE	0	.	0	.	149	.	192	.	.	.
ERICTHONIUS BRASILIENSIS	0	.	0	.	21	.	32	.	.	.
GRANDIDIERELLA BONNIERIDES	43	.	0	.	64	.	21	.	.	.
MAERA CF WILLIAMSI	0	.	0	.	331	.	0	.	.	.
MELITA ELONGATA	11	.	0	.	0	.	0	.	.	.
PHOTIS MELANICUS	0	.	0	.	0	.	75	.	.	.
LISTRIELLA CF. BARNARDI	0	.	32	.	107	.	320	.	.	.
LYSIANOPSIS CF ALBA	0	.	11	.	0	.	0	.	.	.
MONOCULODES NYEI	0	.	11	.	0	.	21	.	.	.
SYNCHELIDIUM CF. AMERICANUM	0	.	0	.	0	.	11	.	.	.
EUDEVENOPUS HONDURANUS	0	.	0	.	0	.	32	.	.	.
PODOCERUS SP.	0	.	0	.	0	.	11	.	.	.
TIRON TRIOCELLATUS	0	.	0	.	43	.	21	.	.	.
PARACAPRELLA TENUIS	0	.	11	.	0	.	0	.	.	.
TRACHYPENAEUS CONSTRICTUS	0	.	11	.	0	.	0	.	.	.
LUCIFER FAXONI	0	.	0	.	0	.	21	.	.	.
LEPTOCHELA SERRATORBITA	0	.	0	.	0	.	21	.	.	.
PERICLIMENES LONGICAUDATUS	11	.	21	.	0	.	0	.	.	.
PERICLIMENES AMERICANUS	11	.	0	.	0	.	0	.	.	.
ALPHEUS NORMANNI	0	.	11	.	0	.	0	.	.	.
OGYRIDES ALPHAEROSTRIS	32	.	0	.	0	.	0	.	.	.
CALLIANASSA SP.	0	.	0	.	11	.	0	.	.	.
PAGURIDAE SP.	0	.	0	.	85	.	32	.	.	.
PAGURISTES HUMMI	0	.	0	.	11	.	0	.	.	.
PAGURUS GYMNODACTYLUS	0	.	0	.	11	.	0	.	.	.
EUCERAMUS PRAELONGUS	0	.	0	.	32	.	0	.	.	.
BRACHYURA SP. (JUV.)	0	.	21	.	235	.	171	.	.	.
MAJIDAE SP. (JUV.)	0	.	11	.	0	.	0	.	.	.
HETEROCRYPTA GRANULATA	0	.	0	.	11	.	0	.	.	.
PORTUNUS GIBBESII	0	.	21	.	0	.	0	.	.	.
XANTHIDAE SP.	0	.	0	.	11	.	0	.	.	.
PANOPEUS HERBSTII	0	.	11	.	0	.	0	.	.	.
PINNOTHERIDAE SP.	0	.	21	.	117	.	160	.	.	.
PINNIXA CHAETOPTERANA	0	.	0	.	21	.	11	.	.	.
PINNIXA PEARSEI	21	.	0	.	0	.	0	.	.	.
PINNIXA RETINENS	0	.	11	.	11	.	0	.	.	.
SIPUNCULA SP.	0	.	11	.	0	.	0	.	.	.
PHASCOLION SP.	171	.	107	.	0	.	21	.	.	.
PHORONIS ARCHITECTA	11	.	0	.	0	.	0	.	.	.
BRYOZOA SP. = ECTOPROCTA	0	.	11	.	0	.	0	.	.	.
GLOTTIDIA PYRAMIDATA	0	.	0	.	75	.	11	.	.	.
AMPHIURIDAE SP.	75	.	75	.	160	.	96	.	.	.
OPHIOPHRAGMUS SP.	0	.	0	.	0	.	21	.	.	.
AMPHIOPLUS THROMBOIDES	11	.	0	.	0	.	11	.	.	.
AXIOGNATHUS SQUAMATUS	0	.	0	.	0	.	85	.	.	.
HOLOTHUROIDEA SP.	0	.	0	.	32	.	32	.	.	.
BRANCHIOSTOMA FLORIDAE	0	.	0	.	213	.	21	.	.	.
TOTAL DENSITY	9781	.	5269	.	45248	.	18955	.	.	.
TOTAL NUMBER OF SPECIES	91	.	87	.	132	.	141	.	.	.



## BENTHOS ABUNDANCE BY STATION AND SPECIES

NUMBER PER SQUARE METER  
NOVEMBER 1983

SPECIES NAME	1	2	3	4	5	6	7	8	9	10
PORIFERA SP.	0	11	0	0	0	0	0	0	0	0
HYDROZOA SP.	0	11	0	0	0	0	0	0	0	0
ANTHOZOA SP.	0	0	21	0	0	0	0	0	0	32
ATHENARIA	0	0	0	0	0	0	0	0	0	0
PLATYHELMINTHES SP.	0	0	32	0	0	0	0	0	0	0
STYLOCHUS SP.	43	53	0	0	0	0	75	11	11	0
NEMERTINA SP. = RHYNCHOCOELA	64	181	821	11	53	96	149	75	53	288
NEMATODA	11	501	885	0	53	181	1376	64	107	2923
POLYNOID GENUS D	0	0	0	0	0	0	0	11	21	0
POLYNOID GENUS B	0	0	0	0	0	0	0	0	21	11
STHENEIAIS OBLIQUIS	0	0	0	0	0	0	0	0	21	107
PHYLLODOCE CASTANEA	0	21	53	0	0	0	0	0	0	0
PHYLLODOCE ARENAE	0	21	43	0	0	21	75	0	0	21
ETEONE HETEROPODA	0	0	21	0	0	0	11	0	0	0
EULALIA SANGUINEA	0	0	117	0	0	0	0	0	0	21
HESIONURA ELONGATA	0	0	11	0	0	0	0	0	0	0
GYPTIS BREVIPALPA	0	11	149	11	0	0	0	21	11	0
PARAHESIONE LUTEOLA	0	0	11	0	0	0	0	0	0	0
PARANDALIA AMERICANA	149	11	0	21	0	21	0	0	0	0
SYLLIDAE SP.	0	0	21	0	0	0	0	0	0	0
AUTOLYTUS DENTALIUS	0	0	11	0	0	0	11	0	0	0
TYPOSYLLIS CF. LUTEA	0	64	0	0	0	0	0	0	0	0
EXOGENE DISPAR	0	0	416	0	0	0	0	0	0	107
SPHAEROSYLLIS SPP.	0	0	128	0	0	0	85	0	0	0
SPHAEROSYLLIS TAYLORI	0	11	11	0	0	0	149	0	0	11
BRANIA WELFLEETENSIS	0	0	11	0	0	0	0	0	0	11
BRANIA CLAVATA	0	0	0	0	0	0	21	0	0	0
EHLERSIA CORNUTA	0	21	320	0	0	0	0	0	0	11
STREPTOSYLLIS PETTIBONEAE	0	32	0	0	0	0	43	0	0	21
PARAPIONOSYLLIS LONGICIRRATA	0	0	75	0	0	0	0	0	0	0
PARAPIONOSYLLIS SP.	0	0	11	0	0	0	0	0	0	0
NEREIDAE SP.	0	0	0	0	0	0	0	0	0	21
CERATONEREIS IRREATABILIS	0	0	0	0	0	0	0	0	0	21
NEANTHES MICROMMA	0	11	32	0	11	0	0	0	0	53
NEANTHES SUCCINEA	64	85	1355	11	0	21	32	0	0	21
LAONEREIS CULVERI	43	11	0	0	0	0	0	0	0	0
NEPHYTIDAE SP.	0	0	0	0	0	0	0	0	0	21
NEPHYS SP.	0	0	11	0	0	0	0	0	0	0
GLYCERA AMERICANA	11	203	11	0	11	11	181	11	0	0
GLYCERA SP. C	0	0	0	0	0	0	0	0	43	288
GLYCERA SP.	0	0	149	0	0	0	0	0	0	0
GLYCINDE SOLITARIA	0	11	85	0	0	0	107	43	21	117
GONIADIDES CAROLINAE	0	0	64	0	0	0	0	0	0	0
ONUPHIDAE SP.	0	0	11	0	0	0	0	0	0	0
DIOPATRA CUPREA	0	11	11	0	11	0	11	0	0	0
KINBERGONUPHIS SIMONI	0	651	1963	0	0	0	85	0	0	0
MOOREONUPHIS NEBULOSA	0	11	256	0	0	0	384	0	11	1941
LUMBRINERIS VERRILLI	0	21	512	0	0	32	96	0	11	1093
DRILONEREIS LONGA	0	0	0	0	0	0	11	0	0	0
SCHISTOMERINGOS RUDOLPHI	0	0	43	0	0	0	0	0	0	11
PETTIBONEIA SP. A	0	0	11	0	0	0	0	0	0	0
HAPLOSCOLOPLOS FOLIOSUS	299	64	0	341	309	619	0	277	11	0
HAPLOSCOLOPLOS FRAGILIS	0	0	21	32	139	373	11	21	43	0

## BENTHOS ABUNDANCE BY STATION AND SPECIES

NUMBER PER SQUARE METER  
NOVEMBER 1983

SPECIES NAME	1	2	3	4	5	6	7	8	9	10
HAPLOSCOPLOS SP.	0	0	11	0	0	0	224	0	53	512
SCOLOPLOS RUBRA	0	128	149	11	43	43	405	11	21	53
ARICIDEA PHILBINAE	21	864	0	267	309	1003	1739	75	11	21
ARICIDEA TAYLORI	0	661	395	0	0	139	565	96	149	32
ARICIDEA SP. C	0	0	96	0	0	0	0	0	0	96
CIRROPHORUS LYRA	0	53	21	11	0	0	53	0	0	0
CIRROPHORUS CF. FORTICIRRATUS	0	0	85	0	0	0	0	0	0	0
POLYDORA LIGNI	11	0	0	0	0	0	0	0	0	0
POLYDORA SOCIALIS	0	139	43	0	0	11	117	0	11	117
POLYDORA SP.	0	0	11	0	0	0	0	0	0	0
PRIONOSPION HETEROBRANCHIA	0	0	21	0	0	0	0	0	0	0
SPION POTTIBONEAE	0	0	53	0	0	0	0	0	0	0
SPIOPHANES BOMBYX	0	11	0	0	0	0	0	0	0	0
CARAZIELLA HOBSONAE	0	0	0	0	0	0	0	107	0	0
PARAPRIONOSPION PINNATA	0	555	149	75	160	245	373	1184	373	736
STREBLOSPION BENEDICTI	235	811	21	960	1141	2827	2379	768	11	11
APRIONOSPION PYGMAEA	0	0	203	0	0	0	0	0	0	117
SCOLELEPIS TEXANA	107	576	704	0	96	224	1301	85	21	309
SCOLELEPIS SQUAMATA	0	11	0	0	0	0	0	0	0	0
MINUSPION CIRRIFERA	0	0	0	0	0	0	0	21	75	32
BOCCARDIELLA SP. A	0	341	85	0	0	0	117	0	21	0
MAGELONA PETTIBONEAE	0	0	43	0	0	0	0	0	0	0
POECILOCHAETUS JOHNSONI	0	459	640	0	32	11	181	53	800	480
SPIOCHAETOPTERUS C. OCULATUS	0	0	0	0	0	0	0	0	0	53
CIRRATULIDAE SP.	0	0	53	0	0	0	0	0	0	288
CAULLERIELLA SP.	0	224	608	0	53	85	363	96	1205	512
THARYX ANNULOSUS	0	11	0	0	0	0	0	0	0	11
CHAETOZONE SP.	0	85	0	32	96	64	32	0	0	0
CAPITELLA CAPITATA	21	0	0	0	0	0	11	0	0	0
HETEROMASTUS FILIFORMIS	32	0	0	0	0	0	0	0	0	0
NOTOMASTUS LATERICEUS	32	0	0	0	0	0	0	0	0	0
MEDIOMASTUS AMBIESETA	53	0	0	0	0	85	0	0	0	0
MEDIOMASTUS CALIFORNIENSIS	0	85	2528	0	0	0	0	0	0	0
MEDIOMASTUS SP.	0	629	0	213	203	555	1333	21	43	3787
ASYCHIS ELONGATA	0	0	0	0	0	0	0	0	0	11
AXIOHELLA MUCOSA	0	0	107	0	0	0	11	0	0	704
OWENIA FUSIFORMIS	0	0	64	0	0	0	0	0	11	437
MYRIOCHELE OCULATA	0	11	299	0	43	0	11	0	64	5995
SABELLARIA VULGARIS	0	11	11	0	0	0	0	0	0	0
PECTINARIA GOULDII	0	11	43	0	0	0	75	11	53	267
TEREBELLIDAE UNID. SP.	0	0	0	0	0	0	0	0	0	43
PISTA CRISTATA	0	21	0	0	0	0	0	0	0	0
POLYCIRRUS SP.	0	0	139	0	0	0	0	0	0	43
SABELLIDAE	0	11	0	0	0	0	11	0	0	21
CHONE AMERICANA	0	0	21	0	0	0	0	0	0	0
MEGALOMMA BIOCULATUM	0	0	0	0	0	0	0	0	0	21
POTAMILLA RENIFORMIS	0	11	0	0	0	0	0	0	0	0
FABRICIA SABELLA	0	96	395	0	0	0	32	0	0	43
HYPISICOMUS PHAEOAENIA	0	11	0	0	0	0	0	0	0	0
SPIRORBIS SP.	0	11	0	0	0	0	0	0	21	0
POMATOCEROS SP.	0	0	0	0	0	0	0	0	0	0
VERMILIOPSIS SP.	0	0	0	0	0	0	11	0	0	0
BOGUEA ENIGMATICA	0	0	11	0	0	0	0	0	0	0

## BENTHOS ABUNDANCE BY STATION AND SPECIES

NUMBER PER SQUARE METER  
NOVEMBER 1983

SPECIES NAME	1	2	3	4	5	6	7	8	9	10
OLIGOCHAETE	331	512	1749	21	107	875	1120	75	11	0
VIIRINELLIDAE SP.	0	0	21	0	0	0	0	0	0	0
CYCLOSTREMISCUS PENTAGONUS	0	0	0	0	0	0	0	0	32	0
SOLARIOBIS SHIMERI	0	32	0	0	0	0	0	0	0	0
CAECUM PULCHELLUM	0	11	309	0	0	0	0	0	11	0
CAECUM STRIGOSUM	0	32	459	0	0	0	0	0	0	0
DIATOMA VARIUM	11	0	0	0	0	0	0	0	0	0
EPITONIUM SP.	0	0	0	0	0	0	0	0	0	11
STROMBIFORMIS HEMPHILLI	0	0	0	0	0	0	0	0	0	11
CREPIDULA SP.	0	0	0	0	0	0	43	0	0	235
CREPIDULA PLANA	11	181	5739	0	0	0	0	0	43	64
CREPIDULA MACULOSA	0	85	0	0	0	0	0	0	0	0
POLINICES DUPLICATUS	0	21	128	0	0	0	11	11	11	11
MITRELLA LUNATA	0	0	0	0	0	0	0	0	0	11
ANACHIS SP.	0	11	491	0	0	0	0	0	0	0
ANACHIS OBESA OSTREICOLA	0	0	11	0	0	0	0	0	0	0
NASSARIUS VIBEX	0	0	0	11	0	0	0	0	0	11
OLIVELLA SP. B	0	0	0	0	0	0	0	0	0	0
OLIVELLA MINUTA	0	11	11	0	0	0	11	0	0	32
MARGINELLA APICINA	0	21	11	0	0	0	11	0	0	0
TURRIDAE SP.	0	0	11	0	0	0	0	0	0	0
ODOSTOMIA SP.	0	43	0	11	0	11	11	32	0	21
ODOSTOMIA IMPRESSA	0	0	43	0	0	0	0	11	0	0
ODOSTOMIA BISUTURALIS	0	0	0	0	0	0	0	0	11	0
TURBONILLA SP.	0	0	0	0	0	0	0	0	0	32
TURBONILLA DALLI	0	0	0	0	0	0	11	11	0	0
ACTEON PUNCTOSTRIATUS	0	0	0	0	0	0	0	11	0	0
ACTEON CANALICULATA	0	437	96	0	0	21	0	11	0	245
HAMINOE SUCCINEA	0	139	0	0	0	128	11	0	0	0
POLYPLACOPHORA SP.	0	0	11	0	0	0	0	0	0	0
BIVALVIA SP.	11	0	0	0	11	0	0	0	0	0
NUCULA PROXIMA	0	0	64	0	0	0	11	0	0	85
NUCULANA ACUTA	0	0	11	0	0	0	0	0	0	555
MUSCULUS LATERALIS	0	0	0	0	0	0	0	0	0	11
BRACHYDONTES EXUSTUS	0	11	1973	0	0	0	0	0	0	0
AMYGDALUM PAPYRIUM	11	32	75	0	0	0	32	0	0	0
CRASSOSTREA VIRGINICA	0	0	1077	0	0	0	0	0	0	0
CODAKIA ORBICULATA	0	0	11	0	0	0	0	0	0	0
DIPLODONTA PUNCTATA	0	0	11	0	11	0	0	0	0	11
MYSELLA PLANULATA	0	32	43	0	0	0	21	0	0	11
NEAEROMYA FLORIDANA	0	0	0	0	0	0	0	0	0	0
CARDITAMERA FLORIDANA	0	0	21	0	0	0	0	0	587	0
MULINIA LATERALIS	0	11	11	0	0	0	0	21	32	96
ENSIS MINOR	0	43	0	11	0	21	0	0	0	139
TELLINA SP.	341	0	0	0	11	0	0	0	21	32
TELLINA VERSICOLOR	0	0	11	0	0	0	0	0	0	0
TELLINA TAMPAENSIS	11	0	0	0	0	0	0	0	0	0
TAGELUS PLEBIUS	11	0	0	0	0	0	0	0	0	0
SEMELE PURPURASCENS	0	0	96	0	0	0	0	0	0	0
ABRA AEQUALIS	0	0	64	0	0	0	0	0	0	363
MERCENARIA CAMPECHIENSIS	0	0	11	0	0	0	0	0	0	11
CHIONE CANCELLATA	0	11	32	0	0	0	0	0	0	0
PARASTARTE TRIQUERTA	53	0	0	0	0	21	0	0	0	0

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SPECIES NAME	1	2	3	4	5	6	7	8	9	10
CORBULA CONTRACTA	0	0	53	0	0	0	0	0	0	0
LYONSIA HYALINA FLORIDANA	0	11	64	0	0	0	11	0	0	117
MYDOCOPA SP.	0	0	32	0	11	0	11	0	21	544
PARASTEROPE POLLEX	0	0	0	0	0	0	0	0	0	11
PODOCOPA SPP.	0	0	0	0	0	0	11	0	0	0
HAPLOCYTHERIDA SETIPUNCTATA	128	0	0	0	0	0	0	0	0	0
CALANOID COPEPODA	21	43	245	21	43	11	160	32	85	32
HARPACTICOID COPEPODA	0	0	85	0	11	0	75	0	0	267
CYCLOPOID COPEPODA	0	11	75	0	0	0	0	0	0	0
BALANUS IMPROVISTUS	0	0	21	0	0	0	96	0	0	0
BALANUS VENUSTUS	0	0	53	0	0	0	0	0	0	0
MYSDOPSIS BIGELOWI	0	0	0	0	0	11	0	0	0	0
OXYUROSTYLIS SMITHI	0	0	11	0	0	0	0	0	0	0
CUMELLA SP. A.	21	0	0	0	21	0	0	0	0	0
CYCLASPIS SP. B.	0	0	11	0	0	0	0	0	0	0
VALINTHOMPSONIA SP.	0	0	11	0	0	0	0	0	0	11
HALMYRAPSEUDES CF. CUBANENSIS	13813	43	0	11	11	0	11	0	0	21
HARGERIA RAPAX	0	32	11	0	0	0	0	0	0	0
CYATHURA POLITA	75	0	0	0	0	0	0	0	0	0
APANTHURA MAGNIFICA	0	0	11	0	0	0	75	0	0	0
XENANTHURA BREVITELSON	725	0	0	0	11	11	0	0	0	0
HALIOPHOSMA VALERIAE	0	0	0	0	0	0	0	0	0	11
CYMODOCE FAXONI	0	11	0	0	0	0	0	0	0	0
EDOTEA TRILOBIA	21	0	0	0	0	0	11	0	0	0
MUNNA CF. HAYESI	0	0	0	0	0	0	11	0	0	0
AMPELISCA HOLMESI	32	96	75	0	0	0	21	11	11	75
AMPELISCA ABDITA	11	32	128	0	0	11	11	0	0	43
AMPHITHOE LONGIMANA	0	0	32	0	0	0	0	0	0	0
CYNADUSA COMPTA	0	11	0	0	0	0	11	0	0	0
LEMBOS SMITHI	0	0	21	0	0	0	0	0	0	0
MICRODEUTOPUS MYERSI	0	0	11	0	0	0	0	0	0	0
ACUMINODEUTOPUS NAGLEI	0	0	0	0	0	0	0	0	0	21
BATEA CF. CATHARINENSIS	0	0	11	0	0	0	0	0	0	43
CERAPUS SP. A.	0	0	0	0	0	0	0	0	0	0
COROPHIUM ACHERUSICUM	0	0	0	11	0	0	0	0	0	0
COROPHIUM LACUSTRE	21	11	0	0	0	0	11	0	0	0
COROPHIUM SP. A.	0	0	1291	0	0	0	0	0	43	0
ERICHTHONIUS BRASILIENSIS	11	0	43	0	0	0	32	0	21	0
GRANDIDIERELLA BONNIEROIDES	11	21	565	0	0	11	11	11	0	21
ELASMOPUS LEVIS	0	0	75	0	0	0	0	11	0	0
MELITA LONGISETOSA	0	0	75	0	0	0	0	11	0	0
LEUCOTHOE CF. SPINICARPA	0	0	0	0	0	11	0	0	0	0
LISTRIELLA CF. BARNARDI	0	0	0	0	0	0	21	0	0	21
MONOCULODES NYEI	0	0	0	0	0	0	11	0	0	0
SYNCHELIDIUM CF. AMERICANUM	0	0	11	0	0	0	0	0	0	11
EUDEVENOPUS HONDURANUS	0	0	0	0	11	0	0	0	0	0
PODOCERUS SP.	0	11	11	11	0	0	21	11	0	0
STENOTHOE CF. MINUTA	0	21	11	0	11	0	21	21	0	0
TIRON TRIOCCELLATUS	0	0	75	0	0	0	0	0	0	32
PARACAPRELLA TENJIS	0	0	107	0	0	0	32	0	0	0
LUCIFER FAXONI	0	0	11	0	0	0	0	0	0	0
ALPHEUS HETEROCHAEILIS	0	0	11	0	0	0	0	0	0	0
OGYRIDES ALPHAEOSTRIS	0	0	0	11	75	21	0	117	11	0

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SPECIES NAME	1	2	3	4	5	6	7	8	9	10
UPOGEBIA AFFINIS	0	11	0	0	0	0	0	0	0	0
PAGURIDAE SP.	0	0	160	0	0	0	0	0	0	32
PAGURUS CAROLINENSIS	0	0	0	0	0	0	0	0	0	21
BRACHYURA SP. (JUV.)	0	0	21	0	0	0	0	0	0	0
XANTHIDAE SP.	0	11	64	0	0	0	0	0	0	0
PANDOEUS HERBSTII	0	0	53	0	0	0	0	0	0	0
PINNOTHERIDAE SP.	0	53	21	0	11	11	21	21	0	43
PINNIXA PEARSEI	0	0	11	0	0	0	0	0	0	0
PINNIXA RETINENS	0	0	0	0	0	0	0	11	0	0
PHASCOLION SP.	0	11	21	0	0	0	0	43	11	21
PHORONIS ARCHITECTA	0	32	0	0	0	0	11	0	0	53
GLOTTIDIA PYRAMIDATA	0	0	235	0	0	0	0	0	0	43
AMPHIURIDAE SP.	0	11	11	0	11	0	11	11	11	107
AMPHIODIA PULCHELLA	0	0	0	0	0	0	0	0	21	0
AMPHIOPLUS ABDITUS	0	0	0	0	0	0	0	32	11	0
AMPHIOPLUS THROMBOIDES	0	0	0	0	0	0	0	0	11	0
AMPHIURA STIMPSONI	0	0	0	0	0	0	0	0	11	0
MICROPHOLIS GRACILLIMA	0	0	0	0	0	0	0	0	117	11
AXIOGNATHUS SQUAMATUS	0	0	0	0	0	0	0	0	11	0
HOLOTHUROIDEA SP.	0	21	0	0	0	0	0	0	0	11
TOTAL DENSITY	16875	10037	31179	2112	3125	7840	14283	3573	4523	25525
TOTAL NUMBER OF SPECIES	37	88	134	22	32	35	76	41	54	95

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SPECIES NAME	11	12	13	14	15	16	17	18	19	20
PORIFERA SP.	128	21	21	0	0	0	0	0	32	0
HYDROZOA SP.	43	32	0	0	0	0	0	11	0	0
ATHENARIA	0	139	0	0	0	11	0	0	0	0
THENARIA SP.	0	0	0	0	0	0	0	0	11	0
PLATYHELMINTHES SP.	32	0	0	0	11	53	0	0	0	0
STYLOCHUS SP.	0	0	0	0	0	0	0	0	0	0
PLATYHELMINTHES SP. B	0	0	0	11	0	0	0	0	0	0
NEMERTINA SP. = RHYNCHOCEOLA	576	160	117	139	85	2229	107	117	245	224
NEMATODA	4331	5653	11	107	1621	5973	320	491	843	779
LEPIDONOTUS SUBLEVIS	0	43	11	0	0	0	0	0	0	0
LEPIDONOTUS VARIABILIS	21	0	0	0	0	0	0	0	0	0
LEPIDASTHENIA VARIUS	0	0	0	0	0	11	0	0	0	0
POLYNOID GENUS D	0	0	0	0	21	0	0	0	0	0
POLYDONTES LUPINA	11	0	0	0	0	0	0	0	0	0
SIGALIONIDAE	0	0	0	0	0	0	0	0	0	11
STHENELAIS OBLIQUIS	96	85	0	0	0	11	0	0	0	0
EHLSERILEANIRA INCISA	0	11	0	0	0	0	0	0	0	0
FIMBRIOSTHENELAIS SP.	11	0	0	0	*	11	0	0	0	0
PALEANOTUS HETEROSETA	11	0	0	0	0	0	0	0	0	0
PARAMPHINOME SP. B	43	11	0	0	0	0	0	0	0	0
PHYLLODOCE CASTANEA	32	0	0	0	0	0	0	0	0	0
PHYLLODOCE ARENAE	11	0	11	43	96	117	11	21	0	53
ETEONE HETEROPODA	11	0	0	0	21	0	0	0	0	0
EULALIA SANGUINEA	64	43	21	11	11	149	21	11	53	0
PARANATIS SPECIOSA	0	0	0	0	0	0	0	0	0	0
GYPTIS BREVIPALPA	21	0	0	0	21	21	0	0	0	0
PARAHESIONE LUTEOLA	0	0	0	0	0	0	0	0	0	0
SYLLIDAE SP.	0	0	0	0	0	0	0	0	11	0
AUTOLYTUS DENTALIUS	11	32	0	0	0	32	0	0	0	0
TYPOSYLLIS CF. LUTEA	0	32	32	0	0	11	203	64	2315	0
TYPOSYLLIS CF. ARMILLARIS	0	0	0	0	0	0	0	0	576	0
EUSYLLIS LAMELLIGERA	11	0	0	0	0	0	0	0	0	0
EXOGONE DISPAR	1973	672	0	0	11	779	0	0	21	21
EXOGONE LOUREI	96	203	0	0	11	43	0	0	0	0
EXOGONE ATLANTICA	0	96	0	0	0	0	0	0	0	0
SPHAEROSYLLIS SPP.	213	491	0	11	11	288	0	0	64	32
SPHAEROSYLLIS TAYLORI	128	149	0	0	11	160	0	32	21	21
SPHAEROSYLLIS CF. LONGICAUDA	0	0	0	0	0	75	0	0	32	0
BRANIA WELFLEETENSIS	43	0	0	0	0	160	0	0	0	0
BRANIA CLAVATA	32	32	53	0	21	405	0	0	277	0
EHLSERIA CORNUATA	0	11	0	0	0	0	11	0	0	0
EHLSERIA FERRUGINA	0	0	0	0	0	0	0	0	0	0
HAPLOSYLLIS SPONGICOLA	160	32	11	0	0	96	0	0	0	0
ODONTOSYLLIS ENOPLA	43	21	0	0	0	0	0	0	0	0
STREPTOSYLLIS PETTIBONEAE	21	0	0	0	0	0	0	0	0	0
STREPTOSYLLIS SP. JUV.	0	0	0	0	32	245	0	0	0	0
PARAPIONOSYLLIS LONGICIRRATA	43	43	0	0	0	0	0	0	0	0
NEREIDAE SP.	0	53	0	0	0	139	0	0	0	0
CERATONEREIS IRRATABILIS	331	0	0	0	0	43	0	0	0	0
NEANTHES MICRONMA	213	53	85	32	21	0	597	0	267	0
NEANTHES SUCCINEA	0	11	0	0	0	43	0	0	0	0
PLATYNEREIS DUMERILII	0	0	0	0	11	0	0	0	0	0
LAEDONEREIS CULVERI	0	0	384	0	11	0	0	736	0	0



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SPECIES NAME	11	12	13	14	15	16	17	18	19	20
NEPHTYS SIMONI	0	0	0	0	11	0	0	0	0	0
NEPHTYS SP.	0	0	0	0	0	21	0	0	11	0
GLYCERA AMERICANA	171	0	0	0	0	0	0	53	0	0
GLYCERA SP. C	21	0	0	0	139	299	0	0	0	0
GLYCERA SP.	0	0	0	64	0	0	0	0	53	75
HEMIPODUS ROSEUS	0	53	0	0	0	0	0	0	0	0
GLYCINDE SOLITARIA	43	0	11	53	21	213	0	0	11	75
GONIADIDAE CAROLINAE	1109	245	0	0	0	0	0	0	0	21
ONUPHIDAE SP.	0	0	0	0	0	0	0	0	0	0
DIOPATRA CUPREA	0	0	0	0	11	21	0	0	0	0
KINBERGONUPHIS SIMONI	160	11	0	0	213	1621	0	0	0	0
MOOREONUPHIS NEBULOSA	0	64	0	0	0	0	0	0	0	11
MARPHISA SANGUINEA	0	0	11	11	0	0	32	0	0	0
LYSIDICE SP. A	0	0	11	0	0	0	0	0	0	0
LUMBRINERIS VERRILLI	661	107	11	21	75	1515	21	267	32	885
LUMBRINERIS SP. D	64	11	0	0	0	85	0	0	0	0
LUMBRINERIS TENUIIS	11	0	0	0	0	0	0	0	0	0
DRILONEREIS LONGA	11	0	0	0	0	0	0	0	0	0
ARABELLA IRICOLOR	0	11	0	0	0	43	0	0	0	0
SCHISTOMERINGOS RUDOLPHI	0	0	0	0	0	0	0	0	0	0
ORBINIIDAE SP.	0	0	0	0	107	32	0	341	0	0
HAPLOSCOLOPUS FOLIOSUS	96	0	64	0	0	0	0	11	0	0
HAPLOSCOLOPUS FRAGILIS	11	0	0	341	0	11	181	11	0	213
HAPLOSCOLOPUS SP.	0	11	0	0	0	53	0	0	0	0
SCOLOPUS RUBRA	43	0	96	21	139	128	11	0	267	213
ORBINIA RISERII	11	0	0	0	0	11	0	0	0	0
ARICIDEA PHILBINAE	53	21	469	640	640	1440	1013	85	85	32
ARICIDEA TAYLORI	53	43	139	139	2923	96	85	128	405	1045
ARICIDEA SP. C	0	0	0	0	0	64	0	0	0	0
ARICIDEA CATHERINAE	21	64	0	0	0	0	0	0	0	0
CIRROPHORUS LYRA	107	43	0	0	768	235	11	11	43	0
SPIONIDAE SP.	0	11	0	0	21	53	0	0	0	11
POLYDORA LIGNI	64	0	0	0	0	0	0	0	0	0
POLYDORA SOCIALIS	107	0	64	43	0	53	0	11	0	0
POLYDORA WEBSTERI	0	0	597	0	0	0	213	0	949	11
POLYDORA SP.	0	0	0	0	0	0	0	0	0	0
POLYDORA CF. WEBSTERI	0	11	0	0	0	0	0	0	0	0
PRIONOSPION HETEROBANCHIA	0	0	21	0	32	32	64	64	405	21
PRIONOSPION CRISTATA	192	565	0	0	0	11	0	0	0	0
SPION PETTIBONEAE	245	107	0	0	0	21	0	21	32	0
RHYNCHOSPION GLUTAEUS	21	0	0	0	0	0	0	0	0	0
CARAZIELLA HOBSONAE	21	0	0	0	0	43	11	0	0	0
PARAPRIONOSPION PINNATA	11	0	0	309	395	1333	0	299	85	928
STREBLOSPIO BENEDICTI	21	0	811	1771	3531	43	757	3029	576	736
APOPRIONOSPION PYGMAEA	192	0	11	0	0	629	0	11	0	0
SCOLELEPIS TEXANA	75	0	117	373	352	2432	43	352	85	192
MINUSPIO CIRRIFFERA	0	11	0	0	11	0	0	0	0	0
BOCCARDIELLA SP. A	0	21	128	0	0	0	0	0	1643	0
MAGELONA PETTIBONEAE	0	0	96	0	181	43	0	11	11	0
POECILOCHAETUS JOHNSONI	64	11	0	0	0	21	0	0	0	0
SPIOCHAETOPTERUS C. OCULATUS	139	32	0	21	32	213	11	11	0	21
CAULLERIELLA SP.	683	1291	0	0	0	96	0	0	0	0
THARYX ANNULOSUS	21	21	171	341	789	117	523	21	213	128



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SPECIES NAME	11	12	13	14	15	16	17	18		20
CHAETOZONE SP.	21	0	0	0	11	11	0	0	0	0
PIROMIS ROBERTI	0	0	0	0	0	0	0	11	0	0
ARMANDIA MACULATA	11	53	0	0	0	0	0	0	0	0
CAPITELLA CAPITATA	0	11	32	0	0	11	149	181	32	0
HETEROMASTUS FILIFORMIS	0	0	11	0	0	0	0	0	0	0
NOTOMASTUS LATERICEUS	11	0	0	0	11	0	0	0	0	0
MEDIOMASTUS AMBIESETA	448	85	0	0	0	75	0	0	0	0
MEDIOMASTUS CALIFORNIENSIS	395	32	0	491	21	437	1163	0	640	939
MEDIOMASTUS SP.	1600	1013	75	0	416	4683	0	1013	0	0
ASYCHIS ELONGATA	0	0	0	0	0	0	0	0	0	64
CLYMENELLA TORQUATA	0	11	0	0	0	0	0	0	0	0
MALDANE GLEBIFEX	0	0	0	0	11	0	0	0	0	0
AXIOHELLA MUCOSA	43	21	32	0	0	320	0	0	0	21
OWENIA FUSIFORMIS	11	0	0	0	0	128	0	0	0	0
MYRIOCHELE OCULATA	939	107	0	0	21	1387	21	64	11	21
SABELLARIA VULGARIS	1195	32	0	0	0	96	0	11	21	0
PECTINARIA GOULDII	0	0	0	32	0	149	0	11	0	21
TEREBELLIDAE UNIO. SP.	0	32	0	0	0	11	0	0	0	0
PISTA QUADRILOBATA	32	21	0	0	0	11	0	0	0	0
POLYGIRRUS SP.	21	0	21	0	0	75	0	0	0	0
THELEPUS SETOSUS	21	0	0	0	32	64	0	0	64	0
AMAEANA TRILOBATA	0	0	0	0	0	0	0	0	11	0
CHONE AMERICANA	331	597	11	11	53	96	0	32	85	21
MEGALOMMA BIOCCULATUM	32	21	0	0	21	11	0	0	0	0
FABRICIA SABELLA	3840	779	192	0	0	2933	64	0	224	0
HYDROIDES DIANTHUS	0	0	0	0	0	0	0	0	32	0
HYDROIDES SP.	0	0	0	0	0	0	0	0	0	0
POMATOCEROS AMERICANUS	0	0	0	0	0	53	0	0	11	0
BOGUEA ENIGMATICA	32	0	0	0	0	331	0	0	0	0
BOGUEA SP. A	85	0	0	0	0	0	0	0	0	0
OLIGOCHAETE	0	181	523	416	1131	1109	907	203	981	224
GASTROPODA SP.	0	0	0	0	0	21	0	21	0	11
SOLARIOBIS SHIMERI	0	0	0	0	0	0	0	11	75	11
CAECUM PULCHELLUM	0	0	0	0	0	11	85	0	171	0
CAECUM STRIGOSUM	0	0	0	0	0	11	0	0	0	0
DIASTOMA VARIUM	0	0	0	0	11	53	0	0	0	0
CERITHIOPSIS EMERSONI	0	0	0	0	0	0	0	0	0	0
TRIPHORA NIGROCINCTA	0	0	0	0	0	0	0	0	0	0
SEILA ADAMSI	0	0	0	11	0	0	0	0	0	0
MELANELLA INTERMEDIA	0	0	0	0	0	0	0	0	0	0
MELANELLA CONOIDEA	11	11	0	0	0	0	0	0	0	0
STROMBIFORMIS HEMPHILLI	21	21	0	0	0	0	0	0	0	0
CAPULUS UNGARICUS	203	43	75	21	21	491	53	0	0	0
CREPIDULA FLANA	0	0	0	0	75	21	0	0	21	0
CREPIDULA MACULOSA	0	0	0	0	0	0	0	0	0	0
NATICA PUSILLA	21	21	0	0	0	0	0	0	0	0
POLINICES DUPLICATUS	0	43	0	0	0	11	0	0	0	0
MITRELLA LUNATA	75	43	0	0	21	565	0	0	0	0
ANACHIS SP.	0	0	0	0	0	11	0	0	0	0
CANTHARUS CANCELLARIUS	43	53	0	0	0	0	0	0	0	0
NASSARIUS VIBEX	0	0	0	0	0	11	0	0	0	0
OLIVELLA SP. B	149	843	11	0	0	0	0	0	0	0
GRANULINA OVULIFORMIS	0	0	0	0	11	11	0	0	0	0

## BENTHOS ABUNDANCE BY STATION AND SPECIES

NUMBER PER SQUARE METER  
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SPECIES NAME	11	12	13	14	STATION	16	17	18	19	20
MARGINELLA APICINA	32	11	0	0	15	32	0	0	0	0
MARGINELLA AUREOCINCTA	11	0	0	0	0	0	0	0	0	0
ODOSTOMIA SP.	0	0	0	0	0	0	0	11	0	0
TURBONILLA SP.	0	21	0	0	0	0	0	21	0	11
TURBONILLA CONRADI	21	11	0	0	0	107	0	0	0	0
TURBONILLA DALLI	11	0	0	0	0	43	0	0	0	0
ACTEON PUNCTOSTRIATUS	0	0	0	32	11	0	0	11	0	0
ACTEON CANALICULATA	0	0	117	64	0	437	75	1547	181	832
HAMINAE SUCCINEA	0	0	11	64	0	11	0	491	11	128
CYLINDROBULLA BEAUII	0	0	0	0	11	11	0	0	0	0
NUDIBRANCHIA SP.	43	0	0	0	11	21	0	11	0	0
OLYPLACOPHORA SP.	85	0	0	0	0	0	0	0	0	0
ANALACOPHORA SP. A	0	43	0	0	0	0	0	0	0	0
BIVALVIA SP.	0	0	0	0	0	64	0	0	0	0
NUCULA PROXIMA	96	43	0	0	0	75	0	0	0	0
NUCULANA ACUTA	224	469	0	0	0	21	0	11	0	21
ANADARA TRANSVERSA	0	21	0	0	0	0	0	0	0	0
GLYCYMERIS PECTINATA	0	11	0	0	0	0	0	0	0	0
MUSCULUS LATERALIS	0	0	0	0	0	213	0	0	0	0
BRACHYDONTES EXUSTUS	0	0	0	0	0	96	0	0	0	0
AMYGDALUM PAPHIUM	0	43	0	11	0	0	0	0	0	0
CRASSOSTREA VIRGINICA	0	0	0	0	0	11	21	11	11	0
LUCINIA NASSULA	0	0	0	0	11	0	0	0	0	0
DIPLODONTA PUNCTATA	53	43	0	0	0	32	0	0	0	0
MYSELLA PLANULATA	21	11	0	0	0	21	0	0	0	0
CRASSINELLA LUNULATA	32	85	0	0	0	0	0	0	0	0
LAEVICARDIUM MORTONI	43	11	0	0	0	0	0	0	0	0
TRACHYCARDIUM MURICATUM	11	11	0	0	0	0	0	0	0	0
MULINIA LATERALIS	11	0	0	0	0	11	0	0	0	0
TELLINA SP.	0	43	0	32	0	0	0	0	0	0
TELLINA VERSICOLOR	75	0	0	0	0	32	0	0	0	0
TAGELUS DIVISUS	11	0	0	0	0	11	0	0	0	0
TAGELUS SP.	0	32	0	0	0	0	0	0	0	0
SEMELE PURPURASCENS	21	53	0	0	0	0	0	0	0	0
ABRA AEQUALIS	267	1077	0	0	0	53	0	0	0	0
POLYMESODA CAROLINIANA	0	43	0	0	0	0	0	0	0	0
CHIONE GRUS	11	0	0	0	0	0	0	0	0	0
PARASTARTE TRIQUETRA	0	0	21	53	0	0	0	0	0	0
CORBULA CONTRACTA	0	0	0	0	0	107	0	0	0	0
PHOLIDAE SP.	21	0	0	0	0	0	0	0	0	0
LYONSIA HYALINA FLORIDANA	160	181	0	0	0	171	0	0	0	11
HYDRACARINA SP.	0	11	0	0	0	0	0	0	0	0
ANOPLODACTYLUS PETIOLATUS	43	0	0	0	0	0	0	11	0	0
MYDROCOPA SP.	373	1237	21	32	21	480	0	11	0	43
HAPLOCYTHERIDA SETIPUNCTATA	0	0	0	21	0	0	0	0	0	0
CALANOID COPEPODA	32	85	11	160	107	128	32	139	384	21
HARPACTICOID COPEPODA	256	683	32	0	11	256	11	171	288	64
CYCLOPOID COPEPODA	0	0	0	0	0	0	0	0	11	0
BALANUS IMPROVISUS	0	0	0	0	0	171	11	11	0	0
BALANUS VENUSTUS	11	0	32	0	0	0	21	0	0	0
BOWMANIELLA PORTORICENSIS COMPLEX	0	11	0	0	0	0	0	0	0	0
OXYUROSTYLIS SMITHI	117	160	0	0	0	21	0	0	0	0
CUMELLA SP. A	0	64	11	85	11	11	0	0	0	0



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SPECIES NAME	11	12	13	14	15	16	17	18	19	20
PAGURISTES HUMMI	0	565	0	0	0	0	0	0	0	0
PAGURUS CAROLINENSIS	32	21	0	0	0	0	0	0	0	0
EUCERAMUS PRAELONGUS	0	11	0	0	0	0	0	0	0	0
BRACHYURA SP. (JUV.)	107	32	0	0	11	0	0	0	0	0
OSACHILA SP.	11	11	0	0	0	0	0	0	0	0
ILIACANTHA SP.	11	0	0	0	0	0	0	0	0	0
PELIA MUTICA	0	32	0	0	0	0	0	0	0	0
XANTHIDAE SP.	32	43	11	0	21	11	21	0	0	0
EURYPANDEUS DEPRESSUS	0	0	0	0	0	0	11	0	64	0
PANOPAEUS HERBSTII	0	0	0	0	0	11	11	0	149	0
PINNOOTHERIDAE SP.	64	64	32	21	21	64	21	11	0	0
PINNIXA PEARSEI	0	0	0	0	11	0	0	0	0	0
PINNIXA RETINENS	0	32	0	0	0	0	0	0	0	0
SIPUNCULA SP.	0	21	0	0	11	11	0	0	0	0
PHASCOLION SP.	43	32	0	0	0	53	0	0	0	11
PHORONIS ARCHITECTA	0	0	0	0	0	21	0	0	0	0
BRYOZOA SP. - ECTOPROCTA	11	21	0	0	0	11	0	0	0	0
GLOTTIDIA PYRAMIDATA	21	21	11	0	0	11	0	11	11	0
AMPHIURIDAE SP.	181	161	0	0	0	53	0	0	0	0
AMPHIOPUS AGGREGATUS	0	0	0	0	21	0	0	0	0	0
HOLOTHUROIDEA SP.	11	21	0	0	0	11	0	0	0	0
ASCIDIACEA SP.	0	0	11	0	0	0	0	0	0	0
BRANCHIOSTOMA SP.	171	85	0	0	0	21	0	0	0	0
MICROGLOBIUS GULOSUS	0	0	0	0	0	0	0	0	0	11
TOTAL DENSITY	30592	23573	5941	6187	15136	42827	7552	10475	17643	8309
TOTAL NUMBER OF SPECIES	158	144	59	44	76	152	41	53	66	46

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SPECIES NAME	21	22	23	24	25	26	27	28	29	30
PORIFERA SP.	0	0	0	0	0	32	0	0	0	0
HYDROZOA SP.	0	0	0	0	0	11	0	0	0	0
ANTHOZOA SP.	0	0	21	0	0	0	0	0	0	0
ATHENARIA	0	43	0	0	11	32	11	0	11	21
POLYCLADODA SP.	0	0	0	0	0	0	0	0	0	11
STYLOCHUS SP.	11	0	0	0	0	21	11	43	235	11
TRICLADODA SP.	0	0	0	0	11	0	0	0	0	11
FLATWORMS	0	0	32	0	0	0	0	0	0	0
PLATYHELMINTHES SP. A	0	0	32	0	0	0	0	0	0	0
PLATYHELMINTHES SP. B	64	395	651	192	96	704	139	149	619	1525
NEMATODA SP. = RHYNCHOCOLA	224	1632	1557	0	2997	5152	629	21	928	1973
NEMATODA	0	0	0	0	0	11	0	0	0	0
POLYNOID SP.	0	0	0	0	0	11	0	0	0	0
LEPIDONOTUS VARIABILIS	0	0	0	0	0	11	0	0	75	0
LEPIDOMETRIA COMMENSALIS	0	0	0	0	0	0	0	0	21	0
POLYNOID GENUS D	0	11	0	43	75	11	0	11	0	11
POLYNOID GENUS B	0	0	0	0	11	0	0	0	0	0
PHOLOE SP.	0	0	0	0	53	11	0	0	0	11
STHENELAIS OBLIQUIS	21	21	11	107	0	32	0	0	0	21
FINGRIOSTHENELAIS SP.	0	0	0	0	0	0	0	0	11	0
PALEANOTUS HETEROSEYA	0	0	11	0	0	64	0	0	0	0
PARAMPHINOME SP. B	0	0	0	43	213	0	0	0	11	0
PHYLLODOCE CASTANEA	0	0	11	0	0	11	0	0	21	32
PHYLLODOCE ARENAE	43	75	32	0	11	32	21	0	0	21
ETEONE HETEROPODA	0	0	0	11	0	11	0	0	0	11
ETEONE LACTEA	0	0	11	0	0	0	0	0	0	0
EULALIA SANGUINEA	0	32	11	0	0	32	11	0	117	32
GYPTIS BREVIPALPA	11	11	0	21	43	0	0	11	11	64
PARAHESIONE LUTEOLA	0	0	0	0	0	0	0	0	32	0
PODARKE OBSCURA	0	0	0	0	0	0	0	11	0	0
ANCISTROSYLLIS SP. A	0	0	0	0	53	0	0	0	0	0
PARANDALIA AMERICANA	0	0	0	0	21	0	0	0	0	0
SYLLIDAE SP.	0	0	11	0	0	11	0	0	0	0
AUTOLYTUS DENTALIUS	0	0	0	0	0	21	0	0	11	0
TYPOSYLLIS SP.	0	0	0	0	0	11	0	0	0	0
TYPOSYLLIS PROLIFERA	0	0	0	0	0	0	0	0	1216	0
TYPOSYLLIS CF. LUTEA	0	11	43	0	0	43	288	0	1408	32
TYPOSYLLIS CF. ARMILLARIS	0	0	11	0	0	0	0	0	0	0
EXOGONE DISPAR	0	43	2581	0	235	715	288	0	181	1653
EXOGONE LOUREI	0	0	0	0	0	224	0	0	85	0
EXOGONE ATLANTICA	0	0	0	0	0	64	0	0	0	0
SPHAEROSYLLIS SPP.	0	0	21	0	0	85	0	0	0	0
SPHAEROSYLLIS TAYLORI	43	32	181	0	21	32	117	0	21	181
SPHAEROSYLLIS LONGICAUDA	0	0	21	0	43	43	11	0	0	235
SPHAEROSYLLIS PIRIFEROPSIS	0	0	0	0	0	11	0	0	0	0
BRANIA SP. A	0	0	0	0	0	0	0	0	21	0
BRANIA WELFLEETENSIS	0	0	0	11	0	21	0	0	0	0
BRANIA CLAVATA	0	0	0	0	0	11	0	0	256	0
EHLERSIA CORNUJA	0	21	117	0	21	32	352	0	0	149
EHLERSIA FERRUGINA	0	0	0	0	0	0	0	0	0	21
HAPLOSYLLIS SPONGICOLA	0	0	0	0	0	4597	11	0	0	0
ODONTOSYLLIS ENOPLA	0	21	0	0	0	75	0	0	53	11
STREPTOSYLLIS PETTIBONEAE	0	0	0	0	0	43	0	0	0	0
PARAPIONOSYLLIS LONGICIRRATA	0	0	0	0	21	107	0	0	0	64

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SPECIES NAME	21	22	23	24	25	26	27	28	29	30
BRANCHIOSYLLIS OCULATA	0	0	0	0	0	11	0	0	0	0
NEREIDAE SP.	0	0	0	11	0	0	53	0	0	32
CERATONEREIS IRRATABILIS	0	0	0	11	107	181	0	0	0	21
NEANTHES MICROMMA	0	53	11	0	352	171	0	0	0	43
NEANTHES ACUMINATA	0	0	0	0	0	0	0	0	11	0
NEANTHES SUCCINEA	0	11	107	0	0	0	0	0	331	0
NEREIS RIISEI	0	0	0	0	0	0	0	0	1419	0
NEPHTYS SIMONI	0	0	0	0	0	11	0	11	0	0
AGLAOPHAMUS VERRILLI	0	0	0	11	21	0	0	0	0	0
SPHAERODOROPSIS SP.	0	0	0	0	0	43	0	0	0	0
GLYCERA AMERICANA	21	21	0	75	21	85	0	21	0	149
GLYCERA SP. C	0	149	0	0	0	0	0	0	0	0
GLYCERA SP.	0	0	107	0	0	0	0	0	0	0
HEMIPODUS ROSEUS	0	0	0	0	0	0	0	0	0	0
GLYCINDE SOLITARIA	96	107	32	21	0	32	21	0	43	149
GONIADIDES CAROLINAE	0	0	245	0	1867	2016	0	0	11	0
ONUPHIDAE SP.	0	0	0	11	0	0	0	0	0	0
KINBERGONUPHIS SIMONI	0	0	0	11	85	11	0	21	0	651
MOOREONUPHIS NEBULOSA	0	427	704	11	43	0	0	0	0	0
MARPHISA SANGUINEA	0	11	192	0	0	0	11	0	0	0
LUMBRINERIS SP. B	0	0	0	0	11	0	0	0	0	0
LUMBRINERIS VERRILLI	148	608	331	416	277	299	32	331	21	715
LUMBRINERIS SP. D	0	0	0	11	0	43	0	0	0	21
ARABELLA MUTANS	0	0	11	0	0	0	0	0	0	0
ARABELLA IRICOLOR	0	11	0	0	11	0	0	0	0	0
SCHIOTOMERINGOS RUDOLPHI	0	0	0	0	0	0	0	0	128	0
PETTIBONEIA SP. A	0	0	0	0	21	0	0	0	0	0
ORBINIIDAE SP.	0	0	0	0	0	0	11	0	0	0
HAPLOSCOLOPUS FOLIOSUS	1387	501	0	11	0	11	0	75	0	75
HAPLOSCOLOPUS FRAGILIS	0	0	32	0	11	0	0	11	0	0
HAPLOSCOLOPUS SP.	0	0	0	0	0	32	53	0	0	0
NAINERIS SP.	0	0	0	0	0	0	0	0	21	0
SCOLOPLOS RUBRA	192	107	11	11	85	21	43	341	11	75
SCOLOPLOS TEXANA	32	0	0	0	0	0	0	491	0	0
ARICIDEA PHILBINAE	53	43	0	21	32	43	501	32	21	608
ARICIDEA TAYLORI	3648	971	43	21	160	107	0	373	0	11
ARICIDEA SP. C	0	32	0	0	11	11	0	0	0	11
ARICIDEA CATHERINAE	53	0	11	43	21	43	0	0	32	11
ARICIDEA FRAGILIS	0	0	0	0	0	0	0	0	11	0
CIRROPHORUS LYRA	11	64	0	0	416	181	0	75	53	32
CIRROPHORUS CF. FORTICIRRATUS	0	0	0	0	85	0	0	0	0	11
SPIONIDAE SP.	0	0	11	0	0	0	0	0	0	0
LAONICE CIRRATA	0	0	0	0	0	21	0	0	0	0
POLYDORA LIGNI	0	0	0	0	0	53	0	0	0	0
POLYDORA SOCIALIS	11	53	43	21	11	363	0	11	0	107
POLYDORA WEBSTERI	0	0	75	0	0	0	149	0	0	0
POLYDORA SP.	0	11	43	0	0	405	0	0	0	0
POLYDORA CF. WEBSTERI	0	0	0	0	0	0	0	0	12725	0
PRIONOSPPIO HETEROBRANCHIA	0	0	11	0	0	0	245	11	1568	160
PRIONOSPPIO CRISTATA	0	11	0	11	53	597	0	0	11	32
SPIO PETTIBONEAE	0	0	11	11	75	459	11	0	0	149
SPIOPHANES BOMBYX	0	0	0	21	0	0	0	0	0	0
CARAZIELLA HOBSONAE	0	11	0	53	1579	75	0	75	0	0



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SPECIES NAME	21	22	23	24	25	26	27	28	29	30
PARAPRIONOSPION PINNATA	597	800	53	128	0	0	0	288	11	320
STREBLOSPIO BENEDICTI	725	267	149	0	0	0	1344	373	597	224
APOPRIONOSPION PYGMAEA	0	21	96	469	0	11	0	0	0	21
SCOLELEPIS TEXANA	192	331	128	128	0	0	181	0	0	0
SCOLELEPIS SQUAMATA	0	0	0	0	0	0	0	0	597	320
MINUSPIO CIRRIFERA	21	11	0	11	11	192	0	0	0	0
BOCCARDIELLA SP. A	21	0	0	0	0	0	0	0	0	11
MAGELONA PETTIBONEAE	11	0	0	0	0	11	0	21	0	0
MAGELONA CF CINCIA	0	0	0	0	11	11	0	0	0	0
POECILOCHAETUS JOHNSONI	0	0	0	0	21	171	0	0	0	0
SPIOCHAETOPTERUS C. OCULATUS	181	267	43	128	11	21	0	21	0	64
CIRRATULIDAE SP.	0	128	0	0	0	11	0	0	11	0
CAULLERIELLA SP.	0	96	299	21	619	608	11	0	0	320
THARYX ANNULOSUS	171	1813	0	139	192	64	21	139	0	107
CHAETOZONE SP.	0	43	0	43	0	0	0	0	0	0
ACROCIRRUS FRONTIFILIS	0	0	0	0	0	0	0	0	21	0
ARMANDIA MACULATA	0	0	0	0	0	43	0	0	0	0
CAPITELLIDAE SP.	0	0	0	0	0	11	0	0	0	0
CAPITELLA CAPITATA	11	0	0	75	96	0	32	0	0	11
NOTOMASTUS LATERICEUS	0	0	0	0	0	0	0	0	0	0
MEDIOMASTUS AMBIESETA	0	181	0	0	0	0	0	0	0	277
MEDIOMASTUS CALIFORNIENSIS	0	43	0	0	0	469	0	0	0	96
MEDIOMASTUS SP.	1067	1973	3573	800	811	2059	32	171	8928	3157
ASYCHIS ELONGATA	32	53	0	11	0	0	0	53	0	32
CLYMENELLA TORQUATA	0	0	0	11	11	0	0	0	0	11
MALDANÆ GLEBIFEX	0	0	0	0	0	0	0	0	0	0
AXIOHELLA MUCOSA	53	107	2283	107	75	43	2176	21	0	2464
OWENIA FUSIFORMIS	0	85	96	43	53	0	0	0	0	11
MYRIOCHELE OCULATA	171	491	2507	384	1035	213	21	32	11	2453
SABELLARIA VULGARIS	0	11	181	0	11	245	0	0	21	32
PECTINARIA GOULDII	32	149	32	21	11	0	0	0	11	181
AMPHARETIDAE SP.	0	0	0	0	0	11	0	0	0	0
AMPHARETE ACUTIFRONS	0	0	0	0	0	11	0	0	0	0
TEREBELLIDAE UNID. SP.	0	0	0	0	0	11	0	0	0	21
PISTA CRISTATA	0	0	0	11	0	11	0	0	0	0
PISTA QUADRILOBATA	0	0	32	11	21	64	0	0	32	32
POLYCIRRUS SP.	0	21	0	11	53	32	1877	0	0	32
THELEPUS SETOSUS	0	11	128	0	0	53	0	0	491	0
LOIMIA MEDUSA	0	0	0	0	21	0	0	0	0	0
AMAEANA TRILOBATA	0	11	0	0	0	21	0	0	0	0
SABELLIDAE	0	0	0	0	0	11	0	0	0	0
CHONE AMERICANA	0	43	96	0	245	1344	149	0	171	85
MEGALOMMA BIOCCULATUM	0	11	11	21	32	53	0	0	0	0
FABRICIA SABELLA	0	11	8181	0	181	1877	1003	11	11	8416
HYPISICOMUS PHAEOTAENIA	0	0	11	0	0	11	11	0	96	0
HYDROIDES DIANTHUS	0	0	32	0	0	0	0	0	427	11
HYDROIDES PROTULICOLA	0	0	0	0	0	11	0	0	0	0
FILOGRANA IMPLEXA	0	0	0	0	0	0	0	0	331	0
POMATOCEROS AMERICANUS	0	0	0	0	0	0	0	0	0	32
VERMILTOPSIS SP.	0	0	0	0	0	0	0	0	43	0
BOGUEA ENIGMATICA	0	0	0	0	0	0	0	0	0	53
BOGUEA SP. A	0	0	0	11	0	0	0	0	0	0
OLIGOCHAETE	1291	555	53	64	843	587	149	43	139	629



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SPECIES NAME	21	22	23	24	25	26	27	28	29	30
GASTROPODA SP.	0	0	0	11	0	0	0	0	0	0
RISSOINA CATESBYANA	0	0	11	0	0	0	0	0	0	0
SOLARIORRIS SHIMERI	11	0	0	0	0	0	0	64	32	0
CIRCULUS SUPPRESSUS	11	0	0	0	0	0	0	0	0	0
CAECUM PULCHELLUM	0	32	971	0	0	85	171	0	2304	192
CAECUM STRIGOSUM	0	0	0	0	21	21	0	0	1845	11
CAECUM NITIDUM	0	0	0	0	0	0	0	0	0	11
DIASTOMA VARIUM	0	0	11	0	0	0	0	0	0	21
EPITONIUM SP.	0	0	0	0	0	0	0	0	0	0
MELANELLA INTERMEDIA	0	0	0	11	0	0	0	0	0	0
CREPIDULA PLANA	0	107	1557	21	0	256	0	0	6005	384
NATICA PUSILLA	0	0	85	0	96	11	0	0	0	0
MITRELLA LUNATA	0	0	0	0	43	53	0	0	149	128
ANACHIS SP.	0	0	32	0	0	0	0	0	0	0
ANACHIS OBESA OSTREICOLA	0	0	0	0	11	117	0	0	299	0
CANTHARUS CANCELLARIUS	0	0	32	0	0	0	53	21	0	0
NASSARIUS VIBEX	0	11	0	0	0	352	0	0	0	11
OLIVELLA SP. B	0	0	0	0	0	43	43	11	0	11
OLIVELLA MINUTA	0	0	0	0	0	0	661	0	0	17
GRANULINA OVULIFORMIS	0	0	0	0	0	43	43	0	0	21
MARGINELLA APICINA	0	0	0	0	0	11	0	0	0	0
MARGINELLA AUREDCINCTA	0	0	11	0	0	11	0	0	0	0
MARGINELLA LALLLEEANA	0	0	0	0	0	32	0	0	0	0
MANGELIA MELANITICA	0	0	0	11	0	0	0	0	0	0
ODOSTOMIA SP.	11	21	0	0	0	0	0	0	0	0
ODOSTOMIA IMPRESSA	0	11	0	0	0	0	0	0	0	0
TURBONILLA SP.	21	21	0	0	0	0	0	0	0	0
TURBONILLA CONRADI	11	11	107	11	11	32	0	0	0	181
TURBONILLA DALLI	0	11	0	0	0	0	0	0	0	11
ACTEON PUNCTOSTRIATUS	96	0	21	0	11	11	0	0	0	32
ACTEON CANALICULATA	693	107	619	64	0	0	277	43	0	587
HAMINOE SUCCINEA	160	32	0	11	11	0	85	64	0	11
NUDIBRANCHIA SP.	11	0	21	11	0	0	0	0	0	0
DOSINIA DISCUS	0	0	0	0	0	0	0	0	0	0
APLACOPHORA SP. A	0	0	0	0	0	11	0	0	0	0
BIVALVIA SP.	0	0	0	0	32	107	11	0	0	0
NUCULA PROXIMA	0	32	192	21	43	331	0	0	11	171
NUCULANA ACUTA	0	21	0	64	117	171	11	0	0	11
ANADARA TRANSVERSA	0	0	11	0	11	0	0	0	0	0
GLYCYMERIS PECTINATA	0	0	0	0	0	11	0	0	0	0
MUSCULUS LATERALIS	0	0	21	0	0	21	0	0	0	32
BRACHYDONTES EXUSTUS	0	0	85	0	0	0	0	0	1227	53
AMYGDALUM PAPHIUM	0	11	32	0	21	32	0	0	0	0
LIOPERUS CASTANEUS	0	0	128	0	0	0	0	0	4256	32
CRASSOSTREA VIRGINICA	0	0	0	32	0	0	0	0	0	0
LUCINA NASSULA	0	0	0	0	0	0	0	0	0	117
CODAKIA ORBICULATA	0	0	0	0	0	0	0	0	0	0
DIPLODONTA PUNCTATA	0	0	11	75	43	117	0	0	0	0
MYSELLA PLANULATA	0	11	11	107	21	21	11	0	21	32
ALIGENA TEXASIANA	0	0	0	0	0	0	0	0	0	21
NEAEROMYA FLORIDANA	0	0	0	43	171	0	0	0	0	0
CARDITAMERA FLORIDANA	0	0	0	0	0	0	11	0	0	0
CRASSINELLA LUNULATA	0	0	0	0	11	53	0	0	0	11

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LAEVICARDIUM MORTONI	0	0	11	0	0	32	0	0	0	30
TRACHYCARDIUM MURICATUM	0	0	0	0	0	11	0	0	0	32
MULINIA LATERALIS	0	0	0	11	21	0	0	0	0	0
TELLINA SP.	0	0	0	0	11	11	0	0	0	0
TELLINA VERSICOLOR	0	0	0	117	53	32	0	0	0	32
TELLINA TEXANA	0	0	0	0	0	0	0	0	0	11
TAGELUS DIVISUS	0	0	0	0	139	85	0	0	0	11
SEMELE BELLASTRIATA	0	0	0	0	0	11	0	0	0	0
SEMELE PURPURASCENS	0	0	75	0	0	117	0	0	0	0
ABRA AEQUALIS	0	0	0	21	277	907	11	0	0	0
POLYMERODA CAROLINIANA	0	0	0	0	0	21	0	0	0	11
TRANSENNELLA CONRADINA	0	0	0	0	11	11	21	0	0	21
MERCENARIA CAMPECHIENSIS	0	11	11	11	0	0	0	0	0	0
CHIONE GRUS	0	0	0	0	0	11	0	0	0	0
CORBULA CONTRACTA	0	0	11	0	53	32	0	0	0	0
PHOLIDAE SP.	0	0	139	32	32	96	0	0	0	0
LYONSIA HYALINA FLORIDANA	0	0	0	11	0	0	0	0	0	107
DENTALIUM LAQUEATUM	43	32	43	21	203	395	416	0	0	427
MYODOCOPA SP.	21	11	0	0	0	11	21	0	0	0
PARASTEROPE POLLEX	0	0	0	0	0	0	0	0	0	0
PODOCOPA SPP.	21	0	0	0	0	0	0	0	0	0
HAPLOCYTHERIDA SETIPUNCTATA	21	0	0	0	0	0	0	0	0	0
CALANOID COPEPODA	11	32	85	53	0	43	32	21	75	107
HARPACTICOID COPEPODA	11	32	107	11	64	149	85	32	117	75
CYCLOPOID COPEPODA	0	0	0	0	0	11	0	0	0	11
BALANUS IMPROVISUS	0	0	96	0	0	0	0	0	256	0
BALANUS VENUSTUS	0	0	0	0	0	0	0	0	128	0
LEUCON SP. A	0	21	0	0	0	0	0	0	0	0
OXYUROSTYLIS SMITHI	0	0	0	21	32	149	0	0	0	0
CUMELLA SP. A	11	0	32	11	0	21	0	0	0	32
CYCLASPIS SP. B	0	0	0	0	64	117	0	0	0	0
CYCLASPIS SP. D	0	0	0	0	21	43	0	0	0	0
CYCLASPIS SP. C	0	0	0	0	0	53	0	0	0	0
VAUNTHOMPSONIA SP.	0	0	0	21	0	0	0	0	0	53
HALMYRAPSEUDES CF. CUBANENSIS	75	11	0	0	0	0	0	0	0	0
KALLIAPSEUDES SP. A	0	0	11	107	213	149	427	0	0	0
HARGERIA RAPAX	0	0	0	0	0	53	0	0	0	0
APANTHURA MAGNIFICA	0	0	0	0	0	32	0	11	0	32
APANTHURA CF. SIGNATA	0	0	171	0	0	363	0	0	0	0
PANANTHURA FORMOSA	0	0	21	0	0	0	0	0	32	0
CIROLANA PARVA	0	0	0	0	0	11	0	0	0	0
PARACERCEIS CAUDATA	0	0	0	0	0	32	0	0	0	0
EDOTEA TRILOBA	0	0	0	0	0	0	0	0	0	0
MUNNA CF. HAYESI	0	0	0	11	32	75	0	0	0	21
AMPELISCA HOLMESI	0	0	11	213	64	53	11	85	0	11
AMPELISCA SP. B	0	0	11	0	0	0	0	0	0	43
AMPELISCA ABDITA	0	0	64	0	43	501	32	0	11	32
GITANOPSIS SP.	0	0	0	0	0	107	0	0	0	0
AMPITHOE LONGIMANA	0	0	0	0	0	21	0	0	0	0
CYNADUSA COMPTA	0	0	0	11	0	0	11	0	0	0
LEMBOS SMITHI	0	11	11	0	64	160	0	0	11	0
LEMBOS BRUNNEOMACULATUS MACKINNEYI	0	0	0	0	32	0	0	0	0	0
MICRODEUTOPUS MYERSI	0	11	11	11	171	384	0	0	0	128

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SPECIES NAME	21	22	23	24	25	26	27	28	29	30
ACUMINODEUTOPUS NAGLEI	0	11	43	0	32	32	21	0	0	0
RILDARDANUS LAMINOSA	0	0	0	0	0	96	0	0	0	0
BATEA CF. CATHARINENSIS	0	0	0	0	0	21	0	0	0	0
CERAPUS SP. A	0	0	0	0	21	0	0	0	0	43
COROPHIUM LOUISIANUM	0	0	0	0	32	0	0	0	0	0
COROPHIUM ACHERUSICUM	0	85	587	21	11	0	0	0	0	0
COROPHIUM LACUSTRE	0	0	0	0	0	0	0	0	1632	85
COROPHIUM SP. A	0	0	0	0	0	128	32	0	0	0
ERICHTHONIUS BRASILIENSIS	0	0	117	0	0	299	0	11	0	53
GRANDIDIERELLA BONNIEROIDES	11	11	459	21	21	85	107	0	299	427
ELASMOPUS LEVIS	0	0	11	0	32	64	0	0	8405	11
MAERA CF. WILLIAMSII	0	0	0	0	0	213	21	0	0	0
MELITA ELONGATA	0	0	0	0	0	0	0	0	3381	0
PHOTIS MELANICUS	0	0	0	0	75	32	0	0	0	0
PHOTIS PUGNATOR	0	0	0	0	0	96	0	0	0	0
LEUCOTHOE CF. SPINICARPA	0	0	0	0	0	11	0	0	0	0
LISTRIELLA CF. BARNARDI	0	32	32	64	75	96	43	0	0	117
MONOCULODES NYEI	0	0	0	0	0	21	0	0	0	21
SYNCHELIDIUM CF. AMERICANUM	0	0	0	0	0	64	0	0	0	0
EUDEVENOPUS HONDURANUS	0	0	0	0	21	0	0	0	0	0
STENOHOE CF. MINUTA	11	32	21	0	0	0	11	0	0	0
TIRON TRIOCCELLATUS	0	0	11	0	21	32	0	0	0	53
CAPRELLA PENANTIS	0	0	0	0	0	0	0	0	0	0
PARACAPRELLA TENJIS	0	0	181	0	0	11	21	0	0	149
LUCIFER FAXONI	0	0	0	21	0	0	0	0	0	0
LEPTOCHELA SERRATORBITA	0	0	0	0	11	43	11	0	0	0
PERICLIMENES AMERICANUS	11	0	0	0	0	0	0	0	0	0
ALPHEUS NORMANNI	0	0	0	0	0	11	0	0	0	0
OGYRIDES ALPHAEROSTRIS	43	0	0	0	0	0	0	0	0	0
UPOGEBIA AFFINIS	0	0	11	0	0	0	0	0	0	11
PAGURIDAE SP.	0	0	21	0	53	224	32	11	53	43
PAGURISTES HUMMI	0	0	0	0	0	11	0	0	0	0
PAGURUS BREVIDACTYLUS	0	0	0	0	0	11	0	0	0	0
PAGURUS CAROLINENSIS	0	0	0	0	0	11	0	0	0	0
PAGURUS CRINITICORNIS	0	0	11	0	0	0	0	0	0	0
PETROLISTHES ARMATUS	0	0	11	0	0	21	0	0	96	0
BRACHYURA SP. (JUV.)	0	0	0	0	75	75	0	0	11	0
EBALIA SP.	0	0	0	0	0	11	0	0	0	0
HETEROCRYPTA GRANULATA	0	0	0	0	0	32	0	0	0	0
PELIA MUTICA	0	0	0	0	0	21	0	0	0	0
XANTHIDAE SP.	0	0	0	0	0	0	0	0	597	0
EURYPANOPUS DEPRESSUS	0	0	0	0	0	0	0	0	907	0
PANOPEUS HERBSTII	0	0	11	0	32	21	0	0	181	0
EURYPLAX NITIDA	0	0	0	0	11	0	0	0	0	0
PINNOTHERIDAE SP.	0	0	32	43	96	117	11	11	11	0
PINNIXA PEARSEI	11	107	0	0	64	0	0	11	0	0
PINNIXA RETINENS	0	0	0	0	11	0	0	11	0	0
CHIRONOMIDAE	0	0	75	0	0	11	0	0	0	0
SIPUNCULA SP.	0	11	0	0	0	32	11	0	0	0
PHASCOLION SP.	0	53	0	0	43	0	245	11	0	0
PHORONIS ARCHITECTA	0	0	0	0	0	0	0	0	0	0
BRYOZOA SP. - ECTOPROCTA	0	0	0	0	0	11	0	0	11	0
GLOTTIDIA PYRAMIDATA	0	0	0	0	11	64	0	0	0	43

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SPECIES NAME	21	22	23	24	25	26	27	28	29	30
AMPHIURIDAE SP.	21	11	32	43	32	64	0	0	0	117
AMPHIOPUS ABDITUS	0	0	0	0	43	53	0	0	0	11
AMPHIOPUS CUNEATUS	0	0	0	0	0	0	0	11	0	0
AMPHIOPUS CONIORTODES	0	0	0	0	21	0	0	0	0	0
MICROPHOLIS GRACILLIMA	0	21	0	53	96	11	0	0	0	0
HOLOTHUROIDEA SP.	0	0	21	0	21	11	0	0	0	64
ASCIDIACEA SP.	0	0	11	0	0	0	64	0	0	11
MOLGULIDAE SP.	0	0	75	0	0	0	0	0	0	0
BRANCHIOSTOMA SP.	0	0	0	21	117	309	0	0	0	11
MYROPHIS PUNCTATUS	0	0	0	0	0	11	0	0	0	0
MICROGObIUS GULOSUS	32	0	0	0	0	0	0	0	0	0
TOTAL DENSITY	12309	14059	32032	5355	17003	34795	13109	3712	66112	33301
TOTAL NUMBER OF SPECIES	57	91	116	86	123	192	71	46	86	132

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SPECIES NAME	31	32	33	34	35	36	37	38	39	40
NEPHTYDIAE SP.	0	0	0	0	0	21	21	0	0	0
NEPHTYS SIMONI	0	0	0	0	0	0	21	0	0	0
NEPHTYS SQUAMOSA	0	0	0	0	11	0	0	0	0	0
AGLAOPHAMUS VERRILLI	0	0	21	11	0	0	11	0	0	64
GLYCERA AMERICANA	85	0	64	32	11	0	0	0	0	0
GLYCERA SP. C	0	0	0	0	11	43	32	0	0	0
GLYCERA SP.	0	21	0	0	0	0	0	0	64	0
GLYCERA DIBRANCHIATA	0	0	11	0	0	0	0	0	0	0
HEMIPODUS ROSEUS	0	0	0	0	171	0	0	0	0	0
GLYCINDE SOLITARIA	203	320	32	117	32	53	0	21	117	0
GONIADIDES CAROLINAE	21	32	0	0	4725	1973	288	0	0	0
ONUPHIDAE SP.	0	0	0	0	0	0	0	11	0	0
DIOPATRA CUPREA	0	0	0	0	0	0	0	0	11	11
KINBERGONUPHIS SIMONI	64	128	43	469	0	181	0	0	0	0
MOOREONUPHIS NEBULOSA	0	11	0	0	171	0	32	0	128	64
LUMBRINERIS SP. B	0	0	75	0	0	0	0	0	0	0
LUMBRINERIS VERRILLI	245	192	683	939	203	779	491	11	277	1717
LUMBRINERIS SP. D	0	0	0	0	32	21	11	0	0	0
LUMBRINERIS ERNESTI	0	0	0	0	0	0	0	0	0	160
DRILONEREIS LONGA	0	0	0	0	0	0	0	11	0	0
ARABELLA MUTANS	0	0	0	0	0	0	0	0	0	11
ARABELLA IRICOLOR	11	0	11	0	0	0	0	0	0	0
SCHISTOMERINGOS RUDOLPHI	0	43	0	53	117	43	0	0	11	43
SCHISTOMERINGOS SP. B	0	0	0	0	0	11	0	0	0	0
PETTIBONEIA SP. A	0	0	0	0	0	0	64	0	0	21
HAPLOSCOLOPUS FOLIOSUS	32	0	11	11	0	0	0	21	21	43
HAPLOSCOLOPUS FRAGILIS	0	75	11	0	11	43	96	0	32	11
NAINERIS DENDRITICA	11	0	0	0	0	0	0	0	0	0
NAINERIS SP.	0	0	0	0	21	0	0	0	0	0
SCOLOPLOS RUBRA	64	64	0	64	21	43	75	0	139	43
ORBINIA RISERII	0	0	0	0	11	0	0	0	0	0
ARICIDEA PHILBINAE	512	181	331	235	11	309	160	1429	139	11
ARICIDEA TAYLORI	64	448	96	107	43	64	117	85	469	171
ARICIDEA SP. C	0	0	11	32	0	0	0	0	0	0
ARICIDEA CATHERINAE	0	0	0	0	11	64	0	0	0	0
ARICIDEA FRAGILIS	0	0	0	0	0	21	32	0	11	96
CIRROPHORUS LYRA	0	0	53	21	597	576	352	11	64	96
SPIONIDAE SP.	0	0	0	0	0	0	0	11	0	0
POLYDORA SOCIALIS	0	0	0	21	0	0	0	0	0	0
POLYDORA WEBSTERI	0	288	0	0	53	267	0	21	0	21
PRIONOSPPIO HETEROBRANCHIA	235	331	11	43	11	0	0	107	0	0
PRIONOSPPIO CRISTATA	0	0	0	43	235	2101	32	0	0	0
PRIONOSPPIO SP.	0	0	0	0	0	0	0	0	11	0
SPIO PETTIBONEAE	32	21	21	11	715	523	53	0	0	11
SPIOPHANES BOMBYX	0	0	0	0	0	0	0	0	0	0
CARAZIELLA HOBSONAE	0	0	53	64	0	0	747	43	0	0
PARAPRIONOSPPIO PINNATA	267	384	75	139	0	11	0	213	597	64
STREBLOSPIO BENEDICTI	11	0	0	0	0	0	128	1067	0	0
APOPRIONOSPPIO PYGMAEA	0	0	0	0	0	0	0	203	11	85
SCOLELEPIS TEXANA	149	96	107	21	11	11	0	0	32	0
MINUSPIO CIRRIFERA	0	32	32	128	21	21	43	0	0	384
MAGELONA PETTIBONEAE	64	139	32	0	0	0	0	21	213	11
MAGELONA PACIFICA	0	0	0	0	0	11	0	0	0	0







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SPECIES NAME	31	32	33	34	STATION	36	37	38	39	40
CALCUM PULCHELLUM	11	213	0	21	35	864	0	0	11	21
CAECUM STRIGOSUM	0	0	0	0	139	21	0	0	0	0
CAECUM NITIDUM	0	0	0	0	0	0	0	0	0	11
CAECUM IMBRICATUM	0	0	0	0	0	53	0	0	0	0
DIASTOMA VARIUM	11	43	0	0	0	0	0	11	0	0
CERITHIOPSIS EMERSONI	0	0	0	0	0	11	0	0	0	0
EPITONIUM SP.	0	0	0	0	0	11	0	0	11	0
EPTONIUM FOLIACEICOSTUM	0	0	0	0	0	11	0	0	0	0
MELANELLA CONOIDEA	0	0	0	0	0	64	0	0	0	0
STROMBIFORMIS SP. A	0	0	0	0	0	0	0	0	0	21
STROMBIFORMIS HEMPHILLI	0	0	0	0	0	0	0	0	0	43
CALYPTRAEA CENTRALIS	0	0	0	0	0	0	0	0	0	0
CREPIDULA PLANA	0	0	0	0	96	117	0	0	0	32
CREPIDULA MACULOSA	85	160	11	235	2187	395	21	11	149	0
NATICA PUSILLA	0	0	0	0	11	0	0	0	0	0
POLINICES DUPLICATUS	0	0	0	0	21	0	0	0	0	0
MUREX SP.	0	0	0	0	11	0	0	0	0	0
MITRELLA LUNATA	181	181	32	43	171	416	43	11	75	0
ANACHIS OBESA	0	0	0	0	0	0	0	0	0	149
ANACHIS AVARA	0	0	0	0	0	11	0	0	0	0
CANTHARUS CANCELLARIUS	0	0	0	0	21	11	32	0	0	0
NASSARIUS VIBEX	21	11	0	0	0	0	0	0	21	0
OLIVELLA SP. A	0	0	0	0	0	96	0	0	0	0
OLIVELLA SP. B	32	0	43	85	0	395	32	0	0	75
OLIVELLA MINUTA	53	96	64	0	0	21	0	0	32	21
GRANULINA OVULIFORMIS	64	0	0	0	0	11	0	0	21	0
MARGINELLA APICINA	53	53	43	32	21	0	0	0	53	43
MARGINELLA AUREOCINCTA	21	21	0	0	0	43	0	0	11	0
MARGINELLA LAVALLEEANA	0	43	11	32	11	0	0	0	11	0
HYALINA SP.	0	11	0	11	0	0	0	0	0	0
MANGELIA MELANITICA	0	0	0	0	0	21	0	0	0	0
CONUS JASPEDEUS STEARNSI	0	0	0	0	0	21	0	0	0	0
ODOSTOMIA SP.	0	0	0	0	11	64	0	0	0	0
ODOSTOMIA IMPRESSA	21	0	0	0	0	0	0	0	0	0
ODOSTOMIA SEMINUDA	0	0	0	11	0	0	0	0	0	0
TURBONILLA SP.	0	0	0	0	0	21	0	0	0	0
TURBONILLA CONRADI	85	75	139	21	11	0	0	0	320	213
TURBONILLA INTERRUPTA	0	32	0	0	0	0	0	0	0	0
TURBONILLA DALLI	21	11	0	32	0	11	0	21	0	0
ACTEON PUNCTOSTRIATUS	0	0	0	32	0	0	0	416	32	0
ACTEON CANALICULATA	693	576	53	107	0	32	0	0	352	0
PHILINE INFUNDIBULUM	0	0	0	0	0	11	0	0	0	0
HAMINOE SUCCINEA	160	32	235	32	0	21	0	245	437	277
ATYS CARIBAEA	0	0	0	0	0	0	0	0	0	11
NUDIBRANCHIA SP.	0	0	0	0	0	11	0	0	0	0
POLYPLACOPHORA SP.	11	85	0	21	320	0	0	0	0	0
BIVALVIA SP.	0	0	0	0	0	43	0	11	0	0
NUCULA PROXIMA	43	32	32	43	0	149	11	0	11	75
NUCULANA ACUTA	0	0	11	43	0	107	43	0	0	32
ANADARA TRANSVERSA	0	0	0	0	21	75	0	0	0	21
MUSCULUS LATERALIS	0	21	0	32	53	245	0	0	43	0
BRACHYDONTES EXUSTUS	32	75	0	107	1728	11	0	0	43	0
AMYGDALUM PAPIRIUM	0	11	0	0	0	0	0	0	0	0

## BENTHOS ABUNDANCE BY STATION AND SPECIES

NUMBER PER SQUARE METER  
NOVEMBER 1983

SPECIES NAME	31	32	33	34	35	36	37	38	39	40
LIOBERUS CASTANEUS	0	0	0	0	85	181	0	0	0	0
ARGOPECTEN GIBBUS	0	11	0	0	0	11	0	0	0	0
ANOMIA SIMPLEX	0	0	0	11	0	0	0	0	0	0
LIMA SP.	0	0	0	0	11	11	0	0	0	0
CRASSOSTREA VIRGINICA	0	0	0	11	128	0	0	0	0	0
LUCINA NASSULA	0	0	0	0	0	21	0	0	43	0
DIPLODONTA PUNCTATA	0	0	0	21	32	96	96	0	0	149
ERYCINA SP.	0	0	0	0	32	0	0	0	0	0
MYSELLA PLANULATA	53	75	11	75	85	21	0	11	21	0
CARDITAMERA FLORIDANA	0	32	0	0	0	0	0	0	0	0
CRASSINELLA LUNULATA	0	0	0	0	11	11	0	0	0	0
CRASSINELLA MORTONI	11	53	11	43	181	683	0	0	64	0
LAEVICARDIUM MURICATUM	0	0	0	11	21	96	0	0	11	0
TRACHYCARDIUM MURICATUM	0	0	0	0	0	11	0	0	0	0
MULINIA LATERALIS	0	0	11	0	0	0	0	0	0	0
MACOMA TENTA	0	32	0	75	11	53	0	11	43	0
TELLINA SP.	85	96	11	32	0	21	85	0	0	149
TELLINA VERSICOLOR	0	0	0	0	0	11	0	0	0	0
TELLINA TEXANA	0	0	0	0	0	11	0	0	0	0
TAGELUS DIVISUS	0	0	0	64	53	21	32	0	21	21
SEMELE SP. (JUV.)	0	0	0	0	43	0	0	0	0	0
SEMELE PURPURASCENS	0	0	0	43	43	149	43	0	0	0
ABRA AEGUALIS	0	0	32	235	53	299	363	0	64	181
POLYMESODA CAROLINIANA	0	0	0	32	0	0	11	0	0	0
TRANSENNELLA CONRADINA	0	0	0	11	0	96	0	0	0	0
MERCENARIA CAMPECHIENSIS	0	0	0	0	0	21	21	0	0	0
CHIONE CANCELLATA	0	32	0	11	21	0	0	0	0	11
CHIONE GRUS	0	0	0	0	0	11	0	0	0	0
CORBULA CONTRACTA	0	0	0	0	11	32	0	0	0	11
PHOLIDIAE SP.	0	0	0	0	11	0	0	0	0	0
LYONSIA HYALINA FLORIDANA	0	0	0	43	43	384	0	0	0	0
ASTHENOTHAERUS HEMPHILLI	0	0	0	0	0	11	0	0	43	21
CARDIOMYA GEMMA	0	0	0	0	0	0	0	0	0	11
DENTALIUM LAQUEATUM	0	0	0	11	0	43	0	0	0	0
ANOPLDACTYLUS PETIOLATUS	0	0	0	11	21	21	0	0	0	0
MYODOCOPA SP.	53	139	149	213	288	2880	320	11	469	565
PARASTEROPE POLLEX	11	107	160	32	0	11	21	11	597	235
PODOCOPA SPP.	0	0	0	11	0	0	0	0	11	0
HAPLOCYTHERIDA SETIPUNCTATA	53	0	0	0	0	0	11	85	0	565
CALANOID COPEPODA	0	43	43	0	21	11	0	96	0	21
HARPACTICOID COPEPODA	21	245	0	32	96	544	32	0	0	0
CYCLOPOID COPEPODA	0	0	11	0	0	85	21	0	0	64
BALANUS VENUSTUS	0	0	0	149	1344	0	0	0	0	0
MYSIDOPSIS BAHIA	0	0	0	0	0	469	0	0	0	0
LEUCON SP. A	0	0	0	0	0	0	0	0	11	0
OXYUROSTYLIS SMITHI	0	0	21	0	32	117	43	0	0	107
CUMELLA SP. A	0	0	0	21	21	85	21	21	21	0
CYCLASPIS SP. B	0	0	11	0	11	0	0	0	0	0
CYCLASPIS SP. D	0	0	0	0	21	11	11	0	0	0
CYCLASPIS SP. A	0	0	0	0	0	0	0	0	0	21
VAUNTHOMPSONIA SP.	0	0	11	160	96	416	11	0	0	0
APSEUDES PROPINQUUS	0	11	0	128	0	107	0	0	0	0
HALMYRAPSEUDES CF. CUBANENSIS	0	203	0	0	0	0	0	0	0	0
CALOZODION WADEI	0	0	0	0	128	0	0	0	0	0

## BENTHOS ABUNDANCE BY STATION AND SPECIES

NUMBER PER SQUARE METER  
NOVEMBER 1983

SPECIES NAME	31	32	33	34	35	36	37	38	39	40
KALLIAPSEUDES SP. A	0	0	21	11	149	21	53	0	0	117
TANAIS CAVOLINII	21	85	0	0	0	0	0	0	0	0
HARGERIA RAPAX	11	32	0	0	11	43	0	11	0	0
APANTHURA MAGNIFICA	0	21	0	0	43	0	0	0	43	32
APANTHURA CF. SIGNATA	0	0	0	192	587	1131	0	0	0	11
PANANTHURA FORMOSA	0	32	0	0	0	0	0	0	0	0
HALIOPHAGMA VALERIAE	0	0	11	0	0	0	0	0	0	11
PARACERCEIS CAUDATA	11	32	11	0	0	96	0	0	43	0
CASSIDINIDEA LUNIFRONS	11	11	0	0	0	0	0	0	0	0
SEROLIS MGRAYI	0	0	0	0	0	11	0	0	0	0
ERICHSONELLA CF. ATTENUATA	0	11	0	0	0	0	0	0	0	0
EDOTEA TRILOBA	11	0	0	0	0	64	0	0	64	0
MUNNA CF. HAYESI	0	0	0	11	43	181	0	0	0	21
AMPELISCA HOLMESI	21	21	11	21	0	0	416	0	43	96
AMPELISCA ABDITA	0	21	21	21	64	309	21	0	53	0
GITANOPSIS SP.	0	0	0	0	32	11	0	0	107	0
AMPHITHOE LONGIMANA	0	0	0	0	0	0	0	0	0	0
CYMAUUSA COMPTA	117	352	11	0	32	0	0	21	43	0
LEMBOUS SMITHI	0	21	0	171	149	64	0	11	0	0
LEMBOUS BRUNNEOMACULATUS MACKINNEYI	0	0	0	0	0	11	0	0	0	21
LEMBOUS UNICORNIS	0	0	0	11	0	0	0	0	0	0
MICRODEUTOPUS MYERSI	11	0	11	171	128	448	53	0	0	96
ACUMINODEUTOPUS NAGLEI	0	21	43	21	0	21	32	11	64	32
RILDARDANUS LAMINOSA	0	0	0	0	43	64	0	0	0	0
BATEA CF. CATHARINENSIS	0	21	0	0	0	0	0	0	117	11
CERAPUS SP. A	0	0	0	0	0	21	0	0	0	0
COROPHIUM ACHERSICUM	0	11	0	0	0	0	0	160	0	0
COROPHIUM LACUSTRE	11	0	0	0	0	64	107	0	0	11
COROPHIUM TUBERCULATUM	0	0	0	715	3275	0	0	0	0	0
ERICHTHONIUS BRASILIENSIS	117	213	0	0	181	53	0	0	0	53
GRANDIDIERELLA BONNIERIOIDES	117	181	11	192	448	757	0	0	11	0
ELASMOPUS LEVIS	53	235	0	0	0	11	11	0	0	0
MAERA CF. WILLIAMSII	0	0	0	0	1109	0	0	32	21	11
MELITA SP.	0	11	0	0	0	0	0	0	0	0
MELITA APPENDICULATA	0	0	0	0	0	21	0	0	0	0
HYALE SP. A	0	0	11	0	0	0	0	0	0	0
PHOTIS MELANICUS	0	0	32	0	0	245	32	0	0	0
PHOTIS PUGNATOR	0	0	0	0	11	0	0	0	0	0
LEUCOTHOE CF. SPINICARPA	0	0	0	0	11	171	0	0	0	0
LISTRIELLA CF. BARNARDI	0	11	96	11	64	277	32	11	11	160
LYSIANOPSIS CF. ALBA	32	288	0	0	11	0	0	0	32	0
MONOCULODES NYEI	0	0	32	0	11	0	11	0	53	0
SYNCHELIDIUM CF. AMERICANUM	0	0	0	0	0	21	11	0	0	0
EUDEVENOPUS HONDURANUS	0	0	11	0	0	11	0	0	0	0
EOBOLGUS SPINOSUS	0	21	0	0	0	0	0	0	0	0
STENOTHOE CF. MINUTA	0	11	0	0	43	11	0	11	0	0
TIRON TRIOCCELLATUS	0	0	0	0	32	21	11	0	0	0
ORCHESTIA CF. PLATENSIS	0	0	0	0	11	0	0	0	0	0
PARACAPRELLA TENJIS	11	0	11	43	21	0	0	0	85	32
LUCONACIA INCERTA	0	0	0	0	0	117	0	0	0	43
LEPTOCHELA SERRATORBITA	0	0	11	0	0	43	0	0	0	43
PERICLIMENES LONGICAUDATUS	0	0	21	0	0	0	0	0	0	0
PERICLIMENES AMERICANUS	0	0	0	0	0	11	0	0	0	0

## BENTHOS ABUNDANCE BY STATION AND SPECIES

NUMBER PER SQUARE METER

NOVEMBER 1983

SPECIES NAME	31	32	33	34	35	36	37	38	39	40
ALPHEUS NORMANNI	0	0	0	0	11	0	0	0	0	0
CALLIANASSA SP.	0	0	0	11	0	0	0	0	0	0
PAGURIDAE SP.	43	21	0	21	43	85	11	0	32	0
PAGURISTES HUMMI	0	0	0	0	11	0	0	0	0	0
PAGURUS CRINITICORNIS	0	0	0	0	0	11	0	0	0	0
PETROLISTHES ARMATUS	0	21	0	0	0	11	0	0	0	0
BRACHYURA SP. (JUV.)	0	0	0	0	0	21	0	0	0	21
EBALIA CARIOSA	0	0	0	11	0	11	0	0	0	0
VAJIDAE SP. (JUV.)	0	11	0	11	0	0	0	0	0	0
HETEROCRYPTA GRANULATA	0	0	0	0	11	0	0	0	0	0
PELIA MUTICA	0	0	0	11	0	21	0	0	0	0
XANTHIDAE SP.	0	0	0	0	43	0	0	11	0	0
PANOPEUS HERBSTII	11	21	0	43	171	0	0	0	0	0
RHITHROPANOPEUS HARRISII	0	0	0	0	0	0	11	0	0	0
MENIPPE MERCENARIA	0	0	0	0	21	0	0	0	0	0
PILUMNUS FLORIDANUS	0	0	0	0	0	21	0	0	0	0
PINNOTHERIDAE SP.	0	0	53	0	85	117	107	0	43	117
PINNIXA CHAETOPTERANA	0	0	0	0	0	21	0	0	0	0
PINNIXA PEARSEI	0	0	0	21	11	0	32	21	0	11
PINNIXA RETINENS	0	0	0	0	43	0	21	0	0	11
SIPUNCULA SP.	0	0	0	0	0	64	0	0	0	0
PHASCOLION SP.	224	107	21	0	0	32	21	0	139	32
PHORONIS ARCHITECTA	0	0	53	21	0	0	0	0	0	0
BRYOZOA SP. = ECTOPROCTA	0	0	0	0	0	21	0	0	0	0
GLOTTIDIA PYRAMIDATA	0	0	0	21	96	11	0	0	0	0
AMPHIURIDAE SP.	75	0	43	96	117	224	64	21	192	96
OPHIOPHRAGMUS FILOGRANEUS	0	0	0	0	0	0	0	0	0	11
AMPHIOPUS ABDITUS	0	11	43	85	0	0	11	0	32	75
AMPHIOPUS THROMBOIDES	0	0	21	0	0	0	0	0	0	0
MICROPHOLIS GRACILLIMA	0	0	0	0	0	0	64	0	0	160
HOLOTHURIOIDEA SP.	0	0	0	11	0	0	0	11	0	11
ASCIDIACEA SP.	0	0	0	0	11	0	0	0	0	0
BRANCHIOSTOMA SP.	0	0	0	0	181	43	32	0	0	0
TOTAL DENSITY	10955	17216	6645	22219	56512	56288	11168	7648	10549	17312
TOTAL NUMBER OF SPECIES	98	113	96	138	156	189	104	57	101	110

MACROPHYTE GROUND TRUTHING - PERCENT COVER BY SPECIES

JUNE 1983

STATION	HALODILE WRIGHTII	THALASSIA TESTUDINUM	SYRINGODIUM FILIFORME	HALOPHILA DECIPENS	HALOPHILA ENGELMANNII	RUPPIA MARTIMA	ATTACHED ALGAE	DRIFT ALGAE
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	16.5	0.0
4	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.2
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	76.9	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.1	0.0	0.0	0.0	0.0	0.0	2.6	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
17	0.4	0.0	5.6	0.0	6.2	0.0	3.0	0.0
18	0.0	0.0	10.2	0.0	0.0	0.0	0.8	0.0
19	0.0	0.0	0.1	0.0	0.0	0.0	5.4	0.0
20	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	78.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	3.7	0.0	2.0	0.0	0.0	0.0	24.3	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0
34	0.0	0.0	26.7	0.0	0.0	0.0	66.9	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37	3.2	0.0	6.7	0.0	0.0	0.0	2.5	0.3
38	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
39	0.0	0.0	82.0	0.0	20.6	0.0	122	0.0
40	0.4	0.0	8.4	0.0	5.9	0.3	23.4	0.0
41	0.0	0.0	0.0	0.0	0.0	80.5	0.1	0.1
42	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.1
43	3.8	0.0	0.4	0.0	1.2	0.0	4.0	0.8
44	2.0	0.0	31.2	0.0	2.4	16.4	58.2	0.0
45	0.0	0.0	14.4	0.0	6.4	27.8	37.6	0.0
46	0.0	0.0	0.0	0.0	0.0	0.0	107	0.0
47	1.7	0.0	0.0	0.0	0.1	0.0	0.8	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.1
49	0.0	0.0	0.0	0.0	5.1	2.4	29.6	0.0
50	0.0	0.0	0.0	0.0	0.0	4.3	20.7	0.0

NOTE: ATTACHED ALGAE ARE ALL OTHER SPECIES COMBINED THEREFORE AVERAGE PERCENT COVER CAN EXCEED 100 PERCENT  
ALSO SUMS ACROSS STATIONS CAN EXCEED 100 PERCENT DUE TO SPECIES LAYERING AND OVERLAP

## MACROPHYTE GROUND TRUTHING - PERCENT COVER BY SPECIES

AUGUST 1983

STATION	HALODILE WRIGHTII	THALASSIA TESTUDINUM	SYRINGODIUM FILIFORME	HALOPHILA DECIPIENS	HALOPHILA ENGELMANNI	RUPPIA MARTIMA	ATTACHED ALGAE	DRIFT ALGAE
A	49.0	0.0	0.0	0.0	3.0	47.0	7.0	0.2
B	2.3	1.0	4.2	0.0	0.0	0.0	35.6	55.3
C	2.4	84.0	77.0	0.0	0.5	0.0	17.6	0.0
D	69.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	24.1	2.3	29.0	0.0	0.0	0.0	0.5	0.8
F	28.2	47.6	2.8	0.0	3.7	0.0	2.5	0.0
G	23.5	0.0	0.0	0.0	5.4	31.2	0.0	3.1
H	0.0	4.3	0.0	0.0	0.0	0.0	0.0	7.8
I	66.5	62.8	0.0	0.0	0.0	0.0	0.0	6.7

NOTE: ATTACHED ALGAE ARE ALL OTHER SPECIES COMBINED THEREFORE AVERAGE PERCENT COVER CAN EXCEED 100 PERCENT  
 ALSO SUMS ACROSS STATIONS CAN EXCEED 100 PERCENT DUE TO SPECIES LAYERING AND OVERLAP



## MACROPHYTE GROUND TRUTHING - PERCENT COVER BY SPECIES

SEPTEMBER 1983

STATION	HALODU- LE WRIGHTII	THALASSIA TESTUDINUM	SYRINGODIUM FILIFORME	HALOPHILA DECIPIENS	HALOPHILA ENGELMANNI	RUPPIA MARTIMA	ATTACHED ALGAE	DRIFT ALGAE
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.8
2	0.0	0.0	0.0	0.0	0.0	38.1	0.0	1.9
3	29.4	0.0	0.0	0.0	0.0	0.0	0.0	10.7
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.8
5	22.3	0.0	0.0	0.0	2.5	0.0	0.0	10.4
6	0.0	0.0	0.0	0.0	0.0	0.0	0.1	8.5
7	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
8	0.0	0.0	0.0	0.0	0.0	0.0	3.7	3.9
9	0.0	0.0	7.0	0.0	2.0	0.0	2.0	0.6
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.3
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.4
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	4.1	2.3
15	0.0	0.0	0.0	0.0	0.0	0.0	73.7	1.3
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
18	0.0	0.0	0.0	0.0	0.0	0.0	5.5	3.2
19	1.5	0.0	0.0	0.0	0.0	0.0	0.1	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	41.0	0.0	0.0	0.0	15.0	1.2
22	0.0	0.0	0.0	0.0	0.0	0.0	28.2	43.6
23	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80.5
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	19.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	41.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	18.2	1.4	2.7	0.0	2.7	0.0	14.6	0.0
33	12.5	37.5	1.5	0.0	0.5	0.0	1.2	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	0.0	0.0	1.2	0.0	0.0	0.0	0.2	0.4
36	36.5	0.0	26.6	0.0	0.0	0.0	10.8	5.0
37	0.0	0.0	0.0	0.0	0.0	0.0	10.5	0.4
38	3.6	0.0	19.5	0.0	0.0	0.0	65.0	16.0
39	0.0	0.0	0.9	0.0	0.1	0.0	22.3	12.8
40	4.5	0.0	3.0	0.0	19.2	49.9	21.3	13.3
41	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.4
42	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
43	0.6	0.0	13.4	0.0	0.0	0.4	32.8	38.4
44	0.0	0.0	9.0	0.0	0.0	9.8	92.6	4.0
45	0.0	0.0	0.0	0.0	0.0	2.1	100	0.0
46	9.1	0.2	5.1	0.0	0.0	0.0	15.7	21.4
47	0.0	0.0	5.6	0.0	0.0	0.0	14.2	0.4
48	0.0	0.0	62.0	0.0	2.4	0.0	82.2	0.0
49	11.4	0.0	1.0	0.0	0.9	0.4	29.1	1.7
50	0.0	0.0	0.0	0.0	0.0	9.0	0.0	26.5

NOTE: ATTACHED ALGAE ARE ALL OTHER SPECIES COMBINED THEREFORE AVERAGE PERCENT COVER CAN EXCEED 100 PERCENT  
ALSO SUMS ACROSS STATIONS CAN EXCEED 100 PERCENT DUE TO SPECIES LAYERING AND OVERLAP

## MACROPHYTE GROUND TRUTHING - PERCENT COVER BY SPECIES

3  
OCTOBER 1983

STATION	HALODULE WRIGHTII	THALASSIA TESTUDINUM	SYRINGODIUM FILIFORME	HALOPHILA DECIPIENS	HALOPHILA ENGELMANNI	RUPPIA MARTIMA	ATTACHED ALGAE	DRIFT ALGAE
A	23.3	0.0	0.8	0.0	4.8	72.0	0.6	0.0
B	3.0	7.5	32.5	0.0	1.6	0.0	24.5	41.9
C	9.2	65.0	32.5	0.0	0.0	0.0	47.9	4.8
D	53.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	30.5	9.2	18.5	0.0	4.2	0.0	0.4	7.2
F	7.0	59.5	0.5	0.0	1.4	0.0	2.4	0.5
G	14.0	0.0	0.0	0.0	2.8	0.0	0.0	4.1
H	0.0	1.4	12.3	0.0	0.0	0.0	4.1	2.0
I	21.2	46.2	0.0	0.0	0.0	0.0	0.7	2.6

NOTE: ATTACHED ALGAE ARE ALL OTHER SPECIES COMBINED THEREFORE AVERAGE PERCENT COVER CAN EXCEED 100 PERCENT  
ALSO SUMS ACROSS STATIONS CAN EXCEED 100 PERCENT DUE TO SPECIES LAYERING AND OVERLAP

## MACROPHYTE GROUND TRUTHING - PERCENT COVER BY SPECIES

DECEMBER 1983

STATION	HALODULE WRIGHTII	THALASSIA TESTUDINUM	SYRINGODIUM FILIFORME	HALOPHILA DECIPIENS	HALOPHILA ENGELMANNI	RUPPIA MARTIMA	ATTACHED ALGAE	DRIFT ALGAE
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.2
2	0.0	0.0	0.0	0.0	0.0	7.6	0.0	1.2
3	24.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1
4	15.7	37.5	0.0	0.0	0.0	0.0	0.0	7.6
5	7.8	0.0	0.0	0.0	0.0	0.0	0.0	7.9
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8
7	0.0	0.3	0.0	0.0	0.0	0.0	0.0	1.9
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8
9	9.9	1.5	0.0	0.0	0.0	0.0	0.5	36.1
10	0.0	36.0	0.0	0.0	14.2	0.0	0.0	0.8
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9
15	0.0	0.0	0.0	0.0	0.0	0.0	97.9	1.1
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3
18	0.0	0.0	0.0	0.0	0.0	0.0	21.4	1.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	1.8	0.0	5.4	0.0	0.0	0.0	1.0	0.8
22	0.0	0.0	0.0	0.0	0.0	0.0	0.1	3.0
23	0.0	0.0	2.8	0.0	4.5	0.0	5.2	0.6
24	0.0	0.0	0.0	0.0	0.0	0.0	0.2	90.2
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	27.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	10.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	14.6	0.0	0.5	0.0	0.0	0.0	0.0	0.0
33	6.6	30.1	12.7	0.0	2.9	0.0	1.3	5.5
34	18.6	0.0	0.2	0.0	0.0	0.0	2.0	0.6
35	0.0	0.0	6.1	0.0	2.6	0.0	64.0	0.0
36	12.5	0.0	25.5	0.0	3.9	0.0	21.8	18.6
37	0.0	0.0	0.1	0.0	1.7	0.0	20.3	9.1
38	6.3	0.5	18.7	0.0	0.0	0.0	10.9	17.7
39	4.2	0.0	9.5	0.0	7.3	0.0	67.9	37.5
40	7.5	0.0	1.0	0.0	1.9	0.0	3.2	31.1
41	0.0	0.0	0.0	0.0	0.0	75.8	0.6	0.0
42	2.8	0.0	6.0	0.0	0.2	0.0	0.3	0.3
43	0.0	0.0	3.3	0.0	0.0	0.0	6.0	8.1
44	0.0	0.0	12.6	0.0	0.1	0.0	9.0	25.5
45	0.0	0.0	0.0	0.0	0.0	18.1	33.9	0.7
46	12.8	0.0	0.0	0.0	0.0	0.0	100	0.3
47	2.6	33.8	49.0	0.0	0.0	0.0	2.3	0.4
48	3.0	0.0	35.4	0.0	0.0	0.0	7.4	11.9
49	3.6	0.0	0.0	0.0	9.9	0.0	1.3	0.1
50	0.0	0.0	0.0	0.0	6.1	25.5	8.7	17.2
					0.2		0.0	1.2

NOTE: ATTACHED ALGAE ARE ALL OTHER SPECIES COMBINED THEREFORE AVERAGE PERCENT COVER CAN EXCEED 100 PERCENT  
ALSO SUMS ACROSS STATIONS CAN EXCEED 100 PERCENT DUE TO SPECIES LAYERING AND OVERLAP

## MACROPHYTE INTENSIVE SAMPLING

JUNE 1983

STATION	DOMINANT SPECIES	AVERAGE BIOMASS	AVERAGE DENSITY	AVERAGE GROWTH
A	RUPPIA MARITIMA	15.9	1643	0.85
B	HALODULE WRIGHTII	13.9	1586	0.73
C	SYRINGODIUM FILIFORME	16.8	1163	0.20
D	HALODULE WRIGHTII			
E	HALODULE WRIGHTII	5.4	1657	0.52
F	SYRINGODIUM FILIFORME	2.4	350.0	0.17
G	RUPPIA MARITIMA	5.0	1129	0.54
H	HALODULE WRIGHTII	1.8	1414	0.52
I	SYRINGODIUM FILIFORME		212.5	

NOTES: AVERAGE BIOMASS IN GRAMS DRY WEIGHT PER SQUARE METER  
AVERAGE DENSITY IN BLADES PER SQUARE METER  
AVERAGE GROWTH IN DRY WEIGHT GRAMS PER SQUARE METER PER DAY

## MACROPHYTE INTENSIVE SAMPLING

AUGUST 1983

STATION	DOMINANT SPECIES	AVERAGE BIOMASS	AVERAGE DENSITY	AVERAGE GROWTH
A	HALODULE WRIGHTII	22.9	1057	0.60
B	SYRINGODIUM FILIFORME	23.9	737.5	0.70
C	THALLASSIA TESTUDINUM	49.4	500.0	0.75
D	HALODULE WRIGHTII	2.1	542.9	0.07
E	SYRINGODIUM FILIFORME	3.6	437.5	.
F	THALLASSIA TESTUDINUM	4.4	437.5	0.25
G	HALODULE WRIGHTII	.	771.4	0.26
H	SYRINGODIUM FILIFORME	3.2	362.5	0.13
I	THALLASSIA TESTUDINUM	10.7	300.0	0.24

NOTES: AVERAGE BIOMASS IN GRAMS DRY WEIGHT PER SQUARE METER  
 AVERAGE DENSITY IN BLADES PER SQUARE METER  
 AVERAGE GROWTH IN DRY WEIGHT GRAMS PER SQUARE METER PER DAY

## MACROPHYTE INTENSIVE SAMPLING

SEPTEMBER 1983

STATION	DOMINANT SPECIES	AVERAGE BIOMASS	AVERAGE DENSITY	AVERAGE GROWTH
A	HALODULE WRIGHTII	32.3	985.7	0.15
B	SYRINGODIUM FILIFORME	39.8	1413	0.33
C	THALLASSIA TESTUDINUM	44.6	650.0	0.21
D	HALODULE WRIGHTII	0.6	314.3	0.05
E	SYRINGODIUM FILIFORME	2.6	500.0	0.04
F	THALLASSIA TESTUDINUM	8.4	450.0	0.08
G	HALODULE WRIGHTII	3.5	600.0	0.06
H	SYRINGODIUM FILIFORME	2.1	450.0	0.04
I	THALLASSIA TESTUDINUM	6.7	400.0	0.22

NOTES: AVERAGE BIOMASS IN GRAMS DRY WEIGHT PER SQUARE METER

AVERAGE DENSITY IN BLADES PER SQUARE METER

AVERAGE GROWTH IN DRY WEIGHT GRAMS PER SQUARE METER PER DAY



## MACROPHYTE INTENSIVE SAMPLING

OCTOBER 1983

STATION	DOMINANT SPECIES	AVERAGE BIOMASS	AVERAGE DENSITY	AVERAGE GROWTH
A	HALODULE WRIGHTII	15.5	1700	0.04
B	SYRINGODIUM FILIFORME	24.0	1163	0.45
C	THALLASSIA TESTUDINUM	29.1	525.0	0.44
D	HALODULE WRIGHTII	3.0	1043	0.04
E	SYRINGODIUM FILIFORME	2.7	512.5	0.06
F	THALLASSIA TESTUDINUM	4.2	362.5	0.08
G	HALODULE WRIGHTII	1.1	1414	0.06
H	SYRINGODIUM FILIFORME	1.8	812.5	0.14
I	THALLASSIA TESTUDINUM	7.0	587.5	0.11

NOTES: AVERAGE BIOMASS IN GRAMS DRY WEIGHT PER SQUARE METER

AVERAGE DENSITY IN BLADES PER SQUARE METER

AVERAGE GROWTH IN DRY WEIGHT GRAMS PER SQUARE METER PER DAY

## MACROPHYTE INTENSIVE SAMPLING

DECEMBER 1983

STATION	DOMINANT SPECIES	AVERAGE BIOMASS	AVERAGE DENSITY	AVERAGE GROWTH
A	HALODULE WRIGHTII	1.1	628.6	0.08
B	SYRINGODIUM FILIFORME	31.9	1288	0.24
C	THALLASSIA TESTUDINUM	26.1	937.5	0.23
D	HALODULE WRIGHTII	0.6	528.6	0.05
E	SYRINGODIUM FILIFORME	0.7	487.5	0.13
F	THALLASSIA TESTUDINUM	1.7	375.0	0.08
G	HALODULE WRIGHTII	0.4	785.7	0.12
H	SYRINGODIUM FILIFORME	0.2	550.0	0.12
I	THALLASSIA TESTUDINUM	3.1	550.0	0.10

\* NOTES: AVERAGE BIOMASS IN GRAMS DRY WEIGHT PER SQUARE METER

AVERAGE DENSITY IN BLADES PER SQUARE METER

AVERAGE GROWTH IN DRY WEIGHT GRAMS PER SQUARE METER PER DAY

BENTHOS  
SPARTINA MARSH DENSITY, BIOMASS, AND HEIGHT

OCTOBER 1983

LOCATIONS	STATION							
	UPPER SALT CREEK	LOWER SALT CREEK	CONTROL	MIDWAY	THERMAL	THUMB ISLAND	FENCE	DAVIS ISLAND
1								
LIVE HEIGHT								
LIVE WEIGHT	171.333	89.257	158.200	213.767	225.067	186.200	178.267	107.090
LIVE DENSITY	43.333	18.000	65.667	49.667	65.667	50.667	54.333	22.000
DEAD WEIGHT	60.080	49.257	62.710	98.590	72.327	76.017	71.187	81.460
2								
LIVE HEIGHT								
LIVE WEIGHT	171.767	70.491	124.713	222.967	209.933	235.700	141.400	52.757
LIVE DENSITY	53.667	26.667	29.667	41.667	66.667	50.667	44.333	17.000
DEAD WEIGHT	89.260	35.247	20.763	63.310	82.233	57.770	36.990	60.730
3								
LIVE HEIGHT								
LIVE WEIGHT	156.167	250.433	114.943	168.567	219.767	235.933	173.233	173.033
LIVE DENSITY	54.000	55.333	24.000	41.333	61.333	54.000	53.000	31.333
DEAD WEIGHT	41.573	51.970	31.697	51.147	58.413	65.813	32.210	75.807
4								
LIVE HEIGHT								
LIVE WEIGHT	165.033	101.100	248.467	295.667	219.667	227.833	189.500	52.173
LIVE DENSITY	53.333	27.667	48.000	73.333	66.000	46.333	58.667	6.333
DEAD WEIGHT	97.377	51.937	46.757	65.000	53.677	71.007	46.123	32.940

BENTHOS  
JUNCUS MARSH DENSITY, BIOMASS, AND HEIGHT  
OCTOBER 1983

LOCATIONS	STATION						
	UPPER SALT CREEK	LOWER SALT CREEK	CONTROL	MIDWAY	THERMAL	THUMB ISLAND	FENCE
1							DAVIS ISLAND
LIVE HEIGHT							
LIVE WEIGHT	153.990	182.067	254.600	57.220	278.700	96.827	325.567
LIVE DENSITY	83.000	68.000	113.333	24.667	100.333	53.000	92.333
DEAD WEIGHT	154.557	40.193	37.467	17.593	151.567	46.767	127.933
2							
LIVE HEIGHT							
LIVE WEIGHT	179.367	201.207	320.800	296.000	156.600	197.650	214.333
LIVE DENSITY	120.667	87.667	115.333	96.333	66.333	53.000	64.667
DEAD WEIGHT	143.667	155.657	134.813 <sup>a</sup>	79.067	78.890	103.035	134.580
3							
LIVE HEIGHT							
LIVE WEIGHT	179.033	222.700	150.230	512.200	102.320	265.200	247.833
LIVE DENSITY	67.333	89.333	64.000	190.333	48.333	79.667	72.667
DEAD WEIGHT	96.567	123.633	164.880	206.667	67.593	118.433	104.693
4							
LIVE HEIGHT							
LIVE WEIGHT	235.533	197.300	252.967	312.500	185.637	281.833	239.433
LIVE DENSITY	108.333	72.000	77.333	83.667	113.333	118.333	60.667
DEAD WEIGHT	144.100	107.937	230.860	88.233	96.187	171.500	106.280
							195.400
							53.667
							75.363

## BENTHOS

## JUNCUS MARSH DENSITY, BIOMASS, AND HEIGHT

DECEMBER 1983

## STATION

LOCATIONS	UPPER SALT CREEK	LOWER SALT CREEK	CONTROL	MIDWAY	THUMB ISLAND	FENCE	PAVIL ISLAND
LIVE HEIGHT							
LIVE WEIGHT	4.00	20.567	439.133	135.370	68.513	350.430	374.167
LIVE DENSITY	79.000	98.333	153.667	46.500	34.333	83.333	95.000
DEAD WEIGHT	11.787	131.917	310.767	71.275	38.263	94.373	74.280
LIVE HEIGHT							
LIVE WEIGHT	142.033	331.333	327.267	312.367	155.133	400.760	109.763
LIVE DENSITY	92.000	103.333	109.667	107.000	76.333	104.333	86.667
DEAD WEIGHT	87.253	123.373	101.033	98.740	77.207	189.830	32.307
LIVE HEIGHT							
LIVE WEIGHT	237.767	211.467	249.250	326.670	113.227	357.267	143.803
LIVE DENSITY	96.667	79.667	57.000	154.667	82.667	64.667	77.667
DEAD WEIGHT	163.667	145.867	100.280	171.857	90.880	76.433	49.550
LIVE HEIGHT							
LIVE WEIGHT	231.833	210.733	243.533	290.467	321.300	297.133	141.107
LIVE DENSITY	106.000	86.333	60.333	99.333	112.333	68.667	48.000
DEAD WEIGHT	180.900	119.000	156.450	141.033	135.500	107.583	38.013

BENTHOS  
SPARTINA MARSH DENSITY, BIOMASS, AND HEIGHT

DECEMBER 1983

STATION

LOCATIONS	UPPER SALT CREEK	LOWER SALT CREEK	CONTROL	MIDWAY	THERMAL	THUMB ISLAND	FENCE	DAVIS ISLAND
1								
LIVE HEIGHT								
LIVE WEIGHT	238.233	46.870	84.460	209.700	271.367	190.333	191.767	48.370
LIVE DENSITY	62.667	16.000	64.333	67.333	120.667	58.667	72.667	14.667
DEAD WEIGHT	89.340	41.753	145.967	104.827	40.053	76.860	60.760	81.123
2								
LIVE HEIGHT								
LIVE WEIGHT	103.293	38.140	78.560	161.267	185.933	209.600	171.333	62.097
LIVE DENSITY	46.000	22.667	20.000	40.333	82.000	53.000	75.333	15.000
DEAD WEIGHT	66.057	45.977	14.915	61.010	19.700	64.683	66.883	12.713
3								
LIVE HEIGHT								
LIVE WEIGHT	87.567	120.673	86.777	130.533	123.667	142.433	146.630	235.333
LIVE DENSITY	42.667	49.667	23.667	41.667	70.000	42.000	75.333	36.000
DEAD WEIGHT	31.813	82.120	60.433	46.760	22.943	60.290	54.580	67.740
4								
LIVE HEIGHT								
LIVE WEIGHT	106.467	93.847	162.367	198.567	235.833	151.433	145.500	38.303
LIVE DENSITY	57.000	41.667	56.667	57.000	89.000	41.667	63.000	10.667
DEAD WEIGHT	113.587	57.647	42.113	57.130	58.897	45.600	75.683	11.373



# RENTHOS

## OYSTER MORTALITY - MONTHLY EXPOSURE

STATIONS	MONTH OF SAMPLING	
	DECEMBER	
	LIVE	DEAD
	NUMBER OF OYSTERS	NUMBER OF OYSTERS
1	41	25
2	45	21
3	55	23
4	55	33
5	48	30
6	46	26
7	42	21
8	44	14
9	61	24

## OYSTER MORTALITY - MONTHLY EXPOSURE

STATIONS	MONTH OF SAMPLING	
	JANUARY	
	LIVE	DEAD
	NUMBER OF OYSTERS	NUMBER OF OYSTERS
1	72	18
2	73	17
3	75	15
4	54	36
5	79	11
6	72	18
7	79	9
8	72	18
9	61	28

## BENTHOS

## OYSTER MORTALITY - SIX MONTH EXPOSURE

STATIONS	MONTH OF SAMPLING	
	LIVE	DEAD
	NUMBER OF OYSTERS	NUMBER OF OYSTERS
1	36	54
2	24	64
3	16	63
4	0	90
5	4	75
6	4	56
7	15	71
8	6	83
9	46	34

## OYSTER MORTALITY - MONTHLY EXPOSURE

STATIONS	MONTH OF SAMPLING	
	FEBRUARY	
	LIVE	DEAD
	NUMBER OF OYSTERS	NUMBER OF OYSTERS
1	53	36
2	56	31
3	68	22
4	53	36
5	47	43
6	59	30
7	51	39
8	59	31
9	45	45

SURFACE AND BOTTOM TEMPERATURES (DEGREES C) BY STATION AND WEEK OF  
DECEMBER 1983

STATION	DECEMBER 2, 1983		DECEMBER 7, 1983		DECEMBER 16, 1983		DECEMBER 21, 1983		DECEMBER 28, 1983	
	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM
1	17.3	17.4*	18.3	18.4*	15.3	15.3*	16.2	16.0*	10.8	10.7*
2	17.4	17.4*	17.6	16.9*	15.2	16.3*	16.1	15.8*	10.3	9.6*
3	17.5	17.4*	17.2	17.2*	15.1	15.2*	15.4	15.4*	8.9	8.8*
4	18.9	19.2	18.4	18.4*	15.3	17.6	16.5	16.5*	11.7	11.9
5	19.4	19.6	18.8	18.2*	15.2		16.3	16.4*	12.4	12.4
6	18.7	18.5	18.2	18.2*	16.0	16.8	15.9	15.9*	11.8	11.1
7	18.3	17.8	16.5	16.6	16.0	16.6	15.9	15.9	10.2	10.2
8	18.4	17.9	17.0	17.0	16.1	16.3	16.0	15.9	9.5	9.4
9	18.8	17.8	17.6	17.8	16.0	16.9	15.7	15.8	8.7	8.7
10	18.0	17.8	17.6	17.6	16.2	16.7	16.1	16.1	9.0	9.0
11	18.1	17.6	17.6	17.6	15.9	16.5	16.0	16.0	9.3	9.3
12	17.6	17.6	17.9	17.9	16.1	16.1	16.1	16.1	9.6	9.6
13	22.6	22.6	18.7	18.8*	19.3	19.3	20.3	21.0*	16.5	16.3
14	20.2	20.6	18.2	18.0*	19.9	19.8	20.5	21.9*	12.3	11.9
15	18.9	18.1	16.9	17.0	17.4	17.5	16.4	16.4	10.3	10.3*
16	18.1	18.1			16.7	16.8	16.6	16.6	9.7	9.6
17	24.6	24.7	26.3	26.4*	22.7	22.8	23.5	23.5*	16.8	16.8
18	22.0	22.0	16.6	16.4	22.9	23.1	21.8	21.9*	14.3	14.3
19	22.1	22.3	18.7	18.5	19.9	20.0	18.6	18.7	11.6	11.6
20	20.4	19.5	17.9	18.0	18.4	18.7	18.0	18.1	9.8	9.6
21	19.8	18.9	18.3	18.3	18.7	18.8	18.2	18.3	9.2	8.8
22	18.5	17.7	18.6	18.8	18.1	17.7	18.7	18.5	8.9	8.9
23	18.6	17.3	21.4	21.4	17.1	17.1	21.2	21.2	9.0	9.0
24	17.9	17.4	18.7	18.7*	16.3	16.2	18.3	18.3	9.3	9.3
25	17.4	17.4	18.6	18.6	16.2	16.1	17.0	17.0	9.3	9.3
26	17.5	17.5	18.4	18.4	16.1	16.1	15.8	15.8	9.9	9.6
27	20.4	20.6	18.8	18.7*	15.4	15.4	17.2	17.2*	10.9	11.5
28	19.9	21.7	17.7	17.7	18.2	19.8	16.2	16.3	11.5	10.6
29	19.2	19.0	22.8	23.2	20.7	20.7	21.3	21.5	9.0	8.9
30	18.7	17.4	22.7	23.0	18.5	18.5	21.0	21.1	8.9	8.9
31	16.3	16.3*	17.6	17.7*	14.1	14.3*	15.4	15.4*	8.9	8.9*
32	16.4	16.5*	17.5	17.5*	14.3	14.3*	15.4	15.4*	8.9	8.9*
33	16.6	16.6*	17.4	17.5*	15.4	15.5	15.4	15.4*	8.9	8.7*
34	16.9	16.9*	17.4	17.6*	15.0	15.1*	15.6	15.6*	8.9	8.9*
35	16.9	16.9*	17.8	17.8*	15.5	15.6*	15.6	15.6*	9.0	9.0*
36	16.9	16.9*	17.8	17.9*	15.6	15.5*	15.6	15.6*	9.7	9.6*
37	17.0	17.0*	19.4	18.8*	15.8	15.8*	15.6	15.6*	9.8	10.3*
38	16.9	17.0*	18.4	19.9	16.3	16.3*	16.5	16.4*	8.3	8.4
39	16.4	16.3*	18.7	18.0	15.8	15.9*	15.6	15.6*	8.9	8.1*
40	16.9	16.9*	17.7	17.8*	15.0	15.0*	15.5	15.5*	9.8	9.8*

\* OUTSIDE TIDE WINDOW

SURFACE AND BOTTOM TEMPERATURES (DEGREES C) BY STATION AND WEEK OF  
JANUARY 1984

STATION	JANUARY 5, 1984		JANUARY 12, 1984		JANUARY 16, 1984		JANUARY 23, 1984		JANUARY 30, 1984	
	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM
1	10.9	10.9*	11.6	11.1*	11.8	11.5*	12.3	12.1*	15.8	15.6*
2	10.1	10.1*	11.4	11.3*	11.0	11.0*	11.2	11.2*	15.4	15.0*
3	9.6	9.0*	10.4	10.8*	11.2	10.8*	10.5	10.5*	14.9	14.8*
4	12.0	12.0*	10.6	11.6	12.8	14.3	11.8	11.9*	16.1	16.4
5	11.9	11.9*	10.8	11.6	12.8	14.7	11.1	11.1*	16.6	16.9
6	10.8	10.8*	10.6	11.1	13.7	12.7	10.8	10.7*	16.4	17.0
7	10.6	10.6	10.6	11.3	12.5	11.7	12.2	10.5	16.2	15.9
8	10.3	10.3	10.3	10.4	12.6	11.8	11.8	11.6	16.1	16.0
9	10.6	9.2	10.7	10.7	13.4	11.7	11.6	11.5	15.8	15.7
10	10.6	9.2	10.3	10.7	11.6	11.3	11.0	9.7	15.7	15.5
11	10.5	9.3	10.2	10.7	11.3	10.8	10.8	9.9	14.4	14.4
12	9.8	8.9	10.2	10.3	11.1	10.6	10.7	10.0	13.9	13.8
13	17.0	17.2*	11.0	16.1	16.9	16.9	13.8	13.7*	19.1	19.1
14	12.9	12.9*	12.3	14.9	14.1	15.9	14.4	14.4	18.5	18.4
15	10.9	10.9	11.4	11.4	12.8	12.3	12.2	12.1	16.6	16.7
16	11.8	11.3	10.5	11.9	12.2	11.7	12.6	12.5	16.1	16.1
17	17.9	17.9*	16.8	16.9	19.5	19.5	20.8	20.8*	21.5	21.6
18	11.4	12.6	14.2	14.9	16.5	16.4	16.4	16.4	19.0	18.9
19	12.3	12.3	15.5	13.4	16.3	16.3	17.5	17.6	18.6	18.6
20	12.1	12.2	12.8	14.6	14.2	13.4	16.3	16.3	17.8	17.4
21	11.9	12.9	12.8	14.5*	13.2	12.7	15.6	15.6	17.8	16.5
22	12.1	13.0	12.1	12.9	12.9	11.7	16.8	16.8	16.2	15.4
23	13.5	13.4	12.1	12.9	11.8	11.1	14.1	13.5	16.5	16.4
24	11.8	9.1	12.5	14.5	11.2	10.8	11.2	11.2	15.0	14.9
25	8.6		10.2	11.0	11.0	10.7	10.1	9.9	14.4	14.1
26	8.6	8.6	10.2	10.4	11.2	10.6	10.5	9.7	14.0	13.9
27	12.8	13.3*	11.4	11.4	14.7	14.7	12.3	12.0*	17.0	16.3
28	10.2	10.3	13.3	13.9	14.4	14.4	13.6	13.6	17.5	17.1
29	11.7	14.8	12.9	13.1	16.0	13.2	18.2	18.3	16.9	16.8
30	12.7	12.7	12.2	12.2	12.1	11.5	16.8	16.8	16.1	15.4
31	9.3	9.3*	10.0	10.3*	11.3	*	11.1	11.1*	14.7	14.7*
32	10.2	9.3*	9.9	10.1*	11.1	11.1*	11.2	11.2*	14.6	14.6*
33	8.8	8.4*	10.3	10.4*	10.9	10.9*	10.8	10.8*	14.5	14.7*
34	9.0	9.0*		*	10.8	10.8*	10.6	10.6*	14.9	14.8*
35	8.9	8.9*	11.1	10.8*	10.6	10.6*	10.3	10.3*	14.4	14.4*
36	8.7	8.7*	11.1	10.7*	10.6	10.5*	10.4	10.4*	14.1	14.1*
37	8.6	8.7*	10.5	10.3*	10.4	10.4*	10.6	10.4*	14.0	14.0*
38	11.1	11.1*	11.4	11.0*	11.8	11.8*	12.9	12.9	15.7	15.7*
39	9.3	8.7*	10.4	10.4*	11.2	11.0*	11.3	11.2	15.0	14.7*
40	8.4	8.4*	10.1	9.8*	10.5	10.5*	10.3	10.0*	14.9	14.7*

\* OUTSIDE TIDE WINDOW

\* OUTSIDE TIDE WINDOW



SURFACE AND BOTTOM CONDUCTIVITY (MMHOS/CM) BY STATION AND WEEK OF  
DECEMBER 1983

STATION	DECEMBER 2, 1983		DECEMBER 7, 1983		DECEMBER 16, 1983		DECEMBER 21, 1983		DECEMBER 28, 1983	
	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM
1	13.3	18.2*	11.1	11.8*	17.3	17.0*	10.2	15.4*	21.2	21.3*
2	25.9	26.0*	6.3	10.3*	16.0	24.1*	8.2	13.0*	24.3	25.3*
3	30.1	30.2*	20.5	21.4*	22.7	22.9*	19.9	19.9*	26.7	26.8*
4	27.6	30.3	15.6	18.6*	19.9	27.0	24.7	25.4*	22.3	23.1
5	29.7	31.0	13.0	20.3*	17.6	26.9	23.3	22.5*	23.8	24.2
6	29.1	29.1	13.3	14.7*	22.1	25.6	17.1	17.1*	23.5	24.6
7	30.0	30.8	20.4	19.9	22.1	26.3	23.3	23.1	26.1	26.1
8	30.4	31.7	15.5	22.1	24.1	24.4	24.8	24.7	25.2	25.3
9	30.3	32.4	15.7	19.6	24.6	29.5	19.3	22.8	26.1	26.1
10	32.6	33.5	21.1	23.2	27.2	31.1	26.2	26.2	28.8	28.9
11	35.8	35.9	25.2	28.6	28.8	32.7	27.3	27.3	31.1	31.0
12	37.0	37.0	30.9	33.9	30.7	33.3	29.4	29.5	32.1	32.5
13	36.8	36.8	31.9	31.8*	32.7	32.7	34.5	35.9*	31.9	32.0
14	32.1	33.1	25.0	25.5*	32.8	32.8	33.6	36.7*	26.8	26.6
15	30.6	32.0	22.2	22.8	26.5	27.0	25.0	25.1	26.1	26.2*
16	33.5	33.3			28.5	28.8	26.7	26.7	25.8	25.8
17	38.9	38.9	40.8	40.5*	36.5	36.5	38.2	38.2*	32.5	32.7
18	36.1	36.0	29.8	29.6	36.4	36.4	36.7	36.6*	28.3	28.4
19	36.3	35.7	33.1	31.1	32.7	32.7	33.9	34.0	26.6	26.8
20	33.8	33.8	28.1	30.4	29.4	30.1	31.3	31.5	27.1	27.1
21	33.3	33.5	30.5	30.7	30.6	30.9	32.0	32.1	26.9	27.8
22	33.4	33.4	29.4	30.7	30.9	31.1	31.6	31.2	28.4	28.3
23	33.6	34.0	34.7	34.9	30.6	30.5	36.4	36.5	28.2	28.2
24	35.1	34.9	30.4	30.5*	30.5	31.2	32.2	32.2	29.0	29.9
25	36.0	35.9	31.0	31.0	31.0	32.4	31.3	31.3	31.2	31.2
26	37.3	37.2	33.1	34.5	32.8	33.8	32.3	32.3	31.7	32.7
27	33.7	34.0	33.2	33.3*	28.6	28.6	31.2	31.3*	24.5	26.3
28	32.7	35.8	32.8	32.8	31.0	32.9	29.9	30.5	26.6	26.9
29	33.8	33.7	36.3	36.6	34.2	34.2	35.7	35.8	28.4	28.4
30	33.6	33.6	36.1	36.3	31.4	31.5	35.6	35.7	28.6	28.5
31	28.4	28.3*	17.6	21.0*	24.5	25.7*	27.2	27.3*	24.9	24.7*
32	28.5	28.5*	22.1	22.2*	26.3	26.3*	31.0	31.0*	24.7	24.6*
33	30.8	30.9*	25.2	25.4*	28.9	29.1	31.3	31.3*	24.5	24.4*
34	32.3	32.4*	30.1	31.2*	29.2	28.8*	31.8	31.9*	24.2	24.2*
35	34.7	34.7*	33.3	33.2*	32.2	32.1*	33.2	33.2*	26.3	27.0*
36	35.3	35.3*	34.9	35.0*	33.3	33.1*	33.6	33.6*	28.5	28.4*
37	36.3	36.3*	34.8	35.7*	33.2	33.2*	33.6	33.6*	29.8	23.9*
38	20.5	20.7*	16.4	25.4	19.7	19.7*	14.7	15.4*	23.2	23.0
39	27.7	27.8*	17.6	23.4	26.1	27.1*	22.2	22.3*	24.4	24.3*
40	33.7	33.7*	27.8	30.8*	28.7	30.2*	30.8	31.0*	27.8	28.1*

\* OUTSIDE TIDE WINDOW

SURFACE AND BOTTOM CONDUCTIVITY (MMHOS/CM) BY STATION AND WEEK OF  
JANUARY 1984

STATION	JANUARY 5, 1984		JANUARY 12, 1984		JANUARY 16, 1984		JANUARY 23, 1984		JANUARY 30, 1984	
	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM
1	7.5	7.8*	9.2	12.8*	16.1	21.4*	6.3	6.4*	6.8	9.3*
2	13.0	13.1*	12.9	21.0*	23.4	23.6*	14.1	14.4*	12.0	13.4*
3	16.4	19.5*	17.7	25.3*	24.1	27.0*	19.5	19.5*	19.8	24.1*
4	18.7	20.3*	8.7	11.6	19.8	27.0	18.6	18.9*	12.9	20.8
5	18.8	19.1*	7.5	12.8	19.0	27.9	15.2	15.5*	16.2	17.8
6	15.4	16.2*	11.0	15.7	25.0	24.8	16.4	16.4*	17.3	22.4
7	19.4	21.0	14.8	23.0	24.3	28.2	17.6	21.5	19.9	22.0
8	18.5	24.1	17.4	17.6	24.0	28.2	18.4	18.2	23.4	24.9
9	20.1	25.4	18.9	19.0	25.1	28.5	18.9	18.9	27.0	23.7
10	23.2	24.4	24.1	25.5	28.6	29.3	20.6	27.5	28.5	29.0
11	25.7	25.9	25.6	29.7	30.4	30.7	22.3	25.0	32.8	32.8
12	27.4	28.0	28.3	31.3	31.3	31.5	25.0	29.6	33.9	33.8
13	33.1	33.2*	15.6	31.0	32.0	32.3	24.2	24.0*	27.6	27.7
14	24.5	24.8*	19.3	28.4	26.2	30.5	21.1	21.2	25.3	25.3
15	20.7	20.7	20.7	20.6	23.9	28.7	19.1	19.2	25.1	25.5
16	24.0	24.1	21.9	27.4	28.2	29.6	22.5	22.5	28.7	28.7
17	34.0	34.0*	33.2	33.4	35.4	35.4	30.3	30.2*	32.4	32.8
18	25.7	27.8	30.2	30.7	31.5	31.7	28.1	27.9	27.4	27.4
19	25.5	25.5	27.5	27.7	31.3	31.5	28.4	28.3	26.7	26.6
20	24.9	26.4	24.2	27.7	27.8	29.9	28.0	28.1	26.5	27.4
21	24.8	27.8	17.9	27.8*	24.9	29.9	26.5	26.6	26.8	27.5
22	25.6	27.7	23.9	27.7	27.0	29.7	28.1	28.1	28.8	29.2
23	27.0	27.1	22.3	28.8	29.4	29.4	24.9	24.9	28.6	28.5
24	25.9	27.6	23.9	25.9	30.1	30.1	23.6	23.5	32.1	32.1
25	28.6	29.1	25.9	30.0	31.1	31.1	26.0	29.2	33.1	33.1
26	29.6	30.2	27.7	31.0	31.6	31.7	27.0	29.9	34.6	34.6
27	26.6	27.5*	25.7	26.0	30.1	30.1	27.1	27.1*	25.5	25.9
28	24.8	25.0	25.5	27.3	29.5	29.9	27.0	27.0	26.8	27.8
29	26.2	31.1	24.6	24.3	31.9	30.3	28.8	28.8	27.1	27.1
30	27.1	27.3	24.3	26.8	29.2	29.6	27.9	27.6	29.8	29.8
31	22.1	22.0*	23.7	25.6*	27.5	27.5*	25.7	25.7*	25.2	25.0*
32	24.1	24.2*	23.5	25.3*	27.7	27.5*	25.8	25.8*	25.8	25.7*
33	25.7	26.1*	27.5	27.9*	27.9	27.8*	25.3	25.2*	28.1	28.4*
34	27.0	26.9*	28.4	10.3*	27.8	27.8*	24.4	24.4*	30.0	30.0*
35	28.9	28.9*	28.4	28.6*	29.2	29.2*	24.3	24.4*	31.6	31.6*
36	29.2	29.2*	27.3	29.3*	29.9	29.9*	24.8	24.9*	32.7	32.7*
37	29.6	29.5*	25.7	30.7*	30.6	30.7*	25.4	28.7*	32.9	32.7*
38	14.0	14.1*	18.9	22.6*	19.5	19.4*	17.2	17.1	14.2	14.1*
39	20.0	21.3*	23.0	27.1*	23.8	26.0*	24.3	24.9	22.4	24.6*
40	26.6	26.8*	26.8	29.8*	28.5	28.6*	24.9	26.0*	30.7	30.8*

\* OUTSIDE TIDE WINDOW

\* OUTSIDE TIDE WINDOW

#### 4.3 IMPINGEMENT AND ENTRAINMENT

IMPINGEMENT

SUMMARY

FROM DECEMBER 3, 1983 TO FEBRUARY 14, 1984

SPECIES NAME	NUMBER COLLECTED
OGCOCEPHALUS RADIATUS	2182
PRIONOTUS TRIBULUS	2057
ANCHOA MITCHILLI	1262
UROPHYCIS FLORIDANA	939
BAIRDIELLA CHRYSOURA	839
PEPRILUS BURTI	821
LAGODON RHOMBOIDES	665
ARIUS FELIS	640
SPHOERODES NEPHELUS	332
CHILOMYCTERUS SCHOEPI	274
EUCINOSTOMUS GULA	270
HIPPOCAMPUS ERECTUS	223
LACTOPHRYS QUADRICORNIS	219
HYPSOBLENNIUS HENTZI	171
SYMPHURUS PLAGIUSA	157
MONACANTHUS CILIATUS	144
PRIONOTUS SCITULUS	123
MENIDIA SP.	111
ALUTERUS SCHOEPI	106
SYNGNATHUS FLORIDAE	100
CYNOSCION NEBULOSUS	94
EUCINOSTOMUS ARGENTEUS	92
MONACANTHUS HISPIDUS	89
TRINECTES MACULATUS	82
ACHIRUS LINEATUS	80
MEMBRAS MARTINICA	79
HYPORHAMPHUS UNIFASCIATUS	74
HAEMULON AUROLINEATUM	57
ETROPUS CROSSOTUS	50
SYNGNATHUS SCOVELLI	49
OPSANUS BETA	45
CHASMODES SUBURRAE	44
ANCYLOPSETTA QUADROCELLATA	43
SYNGNATHUS LOUISIANAE	40
MYROPHIS PUNCTATUS	28
ANCHOA HEPSETUS	28
GOBIESOX STRUMOSUS	27
CHAETODIPTERRUS FABER	27
HARENGULA JAGUANA	21
CHLOROSCOMBRUS CHRYSURUS	21
ASTROSCOPUS Y-GRAECUM	20
MUGIL CEPHALUS	19
DASYATIS SABINA	18
BREVOORTIA PATRONUS	18
SYNODUS FOETENS	18
STRONGYLURA NOTATA	18
OPHICHTHUS GOMESI	17
CYNOSCION ARENARIUS	12

PORICHTHYS PLECTRODON	11
SELENE VOMER	10
ORTHOPRISTIS CHRYSOPTERA	9
OLIGOPLITES SAURUS	6
OPHIDION GRAYI	5
STRONGYLURA MARINA	5
CENTROPRISTIS STRIATA	4
APOGON AUROLINEATUS	4
ELOPS SAURUS	3
ANCHOA SP.	3
SERRANUS ATROBRANCHUS	3
ARCHOSARGUS PROBATOCEPHALUS	3
LEIOSTOMUS XANTHURUS	3
GYMNURA MICRURA	2
GYMNOTHORAX NIGROMARGINATUS	2
CLUPEID	2
BREVOORTIA GUNTERI	2
DIPLECTRUM FORMOSUM	2
LUTJANUS GRISEUS	2
MENTICIRRHUS AMERICANUS	2
SCORPAENA BRASILIENSIS	2
OPHISTHONEMA OGLINUM	1
BAGRE MARINUS	1
FUNDULUS GRANDIS	1
FUNDULUS SIMILIS	1
HIPPOCAMPUS ZOSTERAE	1
SYNGNATHUS SP.	1
MYCTEROPERCA MICROLEPIS	1
ECHENEIS NAUCRATES	1
CARANX HIPPOS	1
POGONIAS CROMIS	1
SCIAENOPS OCELLATUS	1
FAMILY OPISTOGNATHIDAE	1
BATHYGOBIUS SOPORATOR	1
MICROGOBIUS THALASSINUS	1
PEPRILUS ALEPIDOTUS	1
UNIDENTIFIED	1

## IMPINGEMENT

## SUMMARY

FROM DECEMBER 3, 1983 TO FEBRUARY 14, 1984

SPECIES NAME	NUMBER COLLECTED
PENAEUS DUORARUM	21561
METOPORHAPHIS CALCARATA	12358
CALLINECTES SAPIDUS	3402
ALPHEUS HETEROCHAEIS	1830
PORTUNUS GIBBESI	1536
LOLLIGUNCULA BREVIS	446
SQUILLA EMPUSIA	342
PALAEON FLORIDANUS	288
XANTHIDAE	276
ALPHEUS NORMANNI	195
PETROLISTHES ARMATUS	58
HIPPOLYSMATA WURDMANNI	53
PALAEONETES INTERMEDIUS	47
TRACHYPENAEUS SIMILIS	24
MENIPPE MERCENARIA	21
LIBINIA DUBIA	18
PALAEONETES VULGARIS	8
NEMERTINEA	6
PORTUNUS SPINIMANUS	5
TOZEUMA CAROLINENSE	4
UPOGEBIA AFFINIS	4
SESARMA RETICULATUM	3
PELIA MUTICA	3
ANNELIDA	2
UCA SPECTOSA	1
UCA SP.	1
PITHO LHERMINIERI	1
ANACHIS SP.	1



## IMPINGEMENT

## SPECIES, NUMBER, AND WEIGHT OF ORGANISMS COLLECTED

## UNIT 1

DECEMBER 1983

SPECIES NAME	AVERAGE NUMBER PER 6 HOUR COLLECTION	AVERAGE WEIGHT PER 6 HOUR COLLECTION	FREQUENCY SAMPLED
OGCOEPHALUS RADIATUS	13.30	795.54	0.95
ARIUS FELIS	7.85	59.37	0.70
EUCINOSTOMUS GULA	3.40	27.19	0.55
EUCINOSTOMUS ARGENTEUS	1.60	3.35	0.45
HAEMULON AUROLINEATUM	0.85	5.51	0.20
ANCHOA MITCHILLI	0.55	0.54	0.30
BAIRDIELLA CHRYSOURA	0.50	4.21	0.35
HIPPOCAMPUS ERECTUS	0.45	0.70	0.30
PRIONOTUS TRIBULUS	0.45	1.69	0.35
MONACANTHUS HISPIDUS	0.40	0.31	0.30
HYPSOBLENNIUS HENTZI	0.35	2.90	0.25
CHAEODIPTERRUS FABER	0.30	2.90	0.30
SPHOERIDES NEPHELUS	0.30	1.01	0.25
SYNGNATHUS LOUISIANAE	0.25	0.18	0.15
LACTOPHRYS QUADRICORNIS	0.25	25.35	0.20
STRONGYLURA NOTATA	0.20	2.06	0.20
MENTIDIA SP.	0.20	0.74	0.20
TRINECTES MACULATUS	0.20	1.35	0.20
SYMPHURUS PLAGIUSA	0.20	1.96	0.10
OPSANUS BETA	0.15	0.57	0.10
CHLOROSCOMBRUS CHRYSURUS	0.15	0.99	0.15
LAGODON RHOMBOIDES	0.15	0.85	0.10
ACHIRUS LINEATUS	0.15	0.16	0.15
MONACANTHUS CILIATUS	0.15	0.81	0.15
DASYATIS SABINA	0.10	6.05	0.05
SYNODUS FOETENS	0.10	1.86	0.10
HYPORHAMPUS UNIFASCIATUS	0.10	0.17	0.05
MEMBRAS MARTINICA	0.10	0.55	0.10
SYNGNATHUS FLORIDAE	0.10	0.25	0.05
PRIONOTUS SCITULUS	0.10	0.45	0.10
CHILOMYCTERUS SCHOEPI	0.10	36.04	0.10
OPHICHTHUS GOMESI	0.05	10.30	0.05
CLUPEID	0.05	0.10	0.05
BREVOORTIA GUNTERI	0.05	10.33	0.05
HARENGULA JAGUANA	0.05	0.34	0.05
ANCHOA HEPSETUS	0.05	0.02	0.05
ANCHOA SP.	0.05	0.24	0.05
OPHIDION GRAYI	0.05	0.52	0.05
OLIGOPLITES SAURUS	0.05	0.21	0.05
SELENE VOMER	0.05	0.68	0.05
LUTJANUS GRISEUS	0.05	0.56	0.05
ORTHOPRISTIS CHRYSOPTERA	0.05	0.62	0.05
CYNOSCION NEBULOSUS	0.05	0.17	0.05
MUGIL CEPHALUS	0.05	2.03	0.05

ETROPUS CROSSOTUS	0.05	0.49	0.05
ALUTERUS SCHOEFFI	0.05	0.11	0.05
TOTAL FISH	33.80	1012.42	
PENAEUS DUORARUM	37.90	158.03	0.95
METOPORHAPHIS CALCARATA	11.35	5.81	0.95
CALLINECTES SAPIDUS	7.35	212.86	0.85
PORTUNUS GIBBESI	5.75	15.13	0.90
LOLLIGUNCULA BREVIS	1.10	18.19	0.45
SQUILLA EMPUSIA	0.70	3.81	0.10
XANTHIDAE	0.60	0.27	0.40
ALPHEUS HETEROCHAEIS	0.40	1.03	0.10
PALAEON FLORIDANUS	0.25	0.14	0.20
MENIPPE MERCENARIA	0.15	14.12	0.15
TRACHYPENAEUS SIMILIS	0.10	0.10	0.10
SESARMA RETICULATUM	0.10	0.15	0.05
PALAEONETES INTERMEDIUS	0.05	0.02	0.05
HIPPOLYSMATA WURDMANNI	0.05	0.05	0.05
TOTAL INVERTEBRATES	65.85	429.74	

## IMPINGEMENT

## SPECIES, NUMBER, AND WEIGHT OF ORGANISMS COLLECTED

## UNIT 2

DECEMBER 1983

SPECIES NAME	AVERAGE NUMBER PER 6 HOUR COLLECTION	AVERAGE WEIGHT PER 6 HOUR COLLECTION	FREQUENCY SAMPLED
OGCOCEPHALUS RADIATUS	16.20	1138.35	1.00
ARIUS FELIS	9.40	68.13	0.55
EUCINOSTOMUS GULA	6.75	53.76	0.60
BAIRDIELLA CHRYSOURA	2.90	21.41	0.55
MONACANTHUS HISPIDUS	1.70	1.38	0.50
HYPORHAMPUS UNIFASCIATUS	1.50	6.41	0.45
EUCINOSTOMUS ARGENTEUS	1.45	2.89	0.60
CHILOMYCTERUS SCHOEPI	1.15	159.73	0.50
ANCHOA MITCHILLI	1.10	0.88	0.50
HIPPOCAMPUS ERECTUS	0.85	3.78	0.40
HAEMULON AUROLINEATUM	0.85	4.87	0.25
MENIDIA SP.	0.65	2.59	0.40
SPHOERODES NEPHELUS	0.60	7.82	0.30
CHAETODIPTERYGIUS FABER	0.55	3.43	0.45
LAGODON RHOMBOIDES	0.50	4.50	0.20
ACHIRUS LINEATUS	0.50	1.18	0.45
SYNGNATHUS LOUISTANAE	0.35	0.37	0.30
LACTOPHRYX QUADRICORNIS	0.35	13.67	0.25
CYNOSCION NEBULOSUS	0.30	2.63	0.10
PRIONOTUS TRIBULUS	0.30	2.50	0.30
HARENGULA JAGUANA	0.25	3.40	0.10
SYNODUS FOETENS	0.25	7.28	0.20
MEMBRAS MARTINICA	0.25	0.83	0.20
SELENE VOMER	0.25	3.56	0.10
ORTHOPRISTIS CHRYSOPTERA	0.25	6.64	0.20
STRONGYLURA NOTATA	0.20	1.63	0.10
CHLOROSCOMBRUS CHRYSURUS	0.20	0.22	0.20
TRINECTES MACULATUS	0.20	3.30	0.20
MUGIL CEPHALUS	0.15	1.21	0.15
PRIONOTUS SCITULUS	0.15	0.57	0.15
SYMPHURIUS PLAGIUSA	0.15	1.56	0.15
OPHICHTHUS GOMESI	0.10	13.69	0.10
ALUTERUS SCHOEPI	0.10	5.33	0.10
MONACANTHUS CILIATUS	0.10	0.97	0.05
DASYATIS SABINA	0.05	6.97	0.05
ANCHOA HEPSIUS	0.05	0.19	0.05
OPSANUS BE	0.05	0.19	0.05
PORICHTHYS L. RODON	0.05	3.36	0.05
SYNGNATHUS IDAE	0.05	0.08	0.05
APOGON AUROC. LINEATUS	0.05	0.07	0.05
CYNOSCION A. JARIUS	0.05	0.04	0.05
ASTROSCOPUS RAECUM	0.05	0.13	0.05
HYPSOBLENNIUS FL. TZI	0.05	0.30	0.05
BATHYGOBIUS SOPORATOR	0.05	0.18	0.05

SCORPAENA BRASILIENSIS	0.05	7.16	0.05
ETROPUS CROSSOTUS	0.05	0.31	0.05
TOTAL FISH	51.15	1569.57	

PENAEUS DUORARUM	72.65	307.50	1.00
CALLINECTES SAPIDUS	17.75	489.85	0.85
METOPORHAPHIS CALCARATA	16.30	7.95	1.00
PORTUNUS GIBBESI	9.55	18.78	1.00
LOLLIGUNCULA BREVIS	6.75	37.56	0.90
XANTHIDAE	1.90	0.92	0.85
SQUILLA EMPUSIA	0.75	5.33	0.20
ALPHEUS HETEROCHAEIS	0.55	1.38	0.15
TRACHYPENAEUS SIMILIS	0.35	0.20	0.20
PETROLISTHES ARMATUS	0.35	0.17	0.35
NEMERTINEA	0.25	2.12	0.15
PALAEON FLORIDANUS	0.25	0.08	0.20
MENIPPE MERCENARIA	0.20	2.74	0.20
PORTUNUS SPINIMANUS	0.10	0.63	0.10
LIBINIA DUBIA	0.10	0.14	0.10
UPOGEBIA AFFINIS	0.05	0.06	0.05
ANACHIS SP.	0.05	0.00	0.05
TOTAL INVERTEBRATES	127.90	875.44	

## IMPINGEMENT

## SPECIES, NUMBER, AND WEIGHT OF ORGANISMS COLLECTED

## UNIT 3

DECEMBER 1983

SPECIES NAME	AVERAGE NUMBER PER 6 HOUR COLLECTION	AVERAGE WEIGHT PER 6 HOUR COLLECTION	FREQUENCY SAMPLED
OGCOCEPHALUS RADIATUS	16.65	1096.77	1.00
ARIUS FELIS	9.15	68.11	0.90
EUCINOSTOMUS GULA	2.75	19.68	0.60
ANCHOA MITCHILLI	2.60	2.76	0.80
MONACANTHUS HISPIDUS	2.15	2.38	0.70
HYPORHAMPUS UNIFASCIATUS	2.10	6.66	0.50
EUCINOSTOMUS ARGENTEUS	1.55	2.60	0.45
BAIRDIELLA CHRYSOURA	1.35	11.95	0.50
CHILOMYCTERUS SCHOEPI	1.25	196.31	0.65
HIPPOCAMPUS ERECTUS	1.00	2.73	0.50
SYNGNATHUS LOUISIANAE	0.80	1.10	0.35
ACHIRUS LINEATUS	0.80	1.51	0.50
CHLOROSCOMBRUS CHRYSURUS	0.70	0.95	0.35
SYNGNATHUS FLORIDAE	0.65	1.29	0.45
HYPSOBLENNIUS HENTZI	0.65	3.87	0.30
SPHOERODES NEPHELUS	0.60	2.69	0.40
HARENGULA JAGUANA	0.55	13.58	0.25
PRIONOTUS TRIBULUS	0.55	1.92	0.20
TRINECTES MACULATUS	0.55	8.62	0.35
LAGODON RHOMBOIDES	0.50	7.81	0.35
STRONGYLURA NOTATA	0.45	4.43	0.25
MONACANTHUS CILIATUS	0.45	1.63	0.20
HAEMULON AUROLINEATUM	0.35	1.37	0.15
CHAETODIPTERUS FABER	0.35	4.14	0.30
ETROPUS CROSSOTUS	0.35	6.53	0.25
MENIDIA SP.	0.30	1.38	0.10
SYNGNATHUS SCOVELLI	0.30	0.25	0.10
LACTOPHRYS QUADRICORNIS	0.30	36.37	0.20
MEMBRAS MARTINICA	0.25	0.94	0.15
OLIGOPLITES SAURUS	0.25	0.60	0.25
ALUTERUS SCHOEPI	0.25	0.77	0.15
SELENE VOMER	0.20	2.76	0.15
OPHICHTHUS GOMESI	0.15	7.63	0.15
BREVOORTIA PATRONUS	0.15	1.00	0.15
PORICHTHYS PLECTRODON	0.15	2.41	0.15
PRIONOTUS SCITULUS	0.15	0.77	0.15
ELOPS SAURUS	0.10	10.69	0.10
ANCHOA SP.	0.10	0.04	0.10
CENTROPRISTIS STRIATA	0.10	12.19	0.10
APOGON AUROLINEATUS	0.10	0.18	0.10
CYNOSCION ARENARIUS	0.10	0.78	0.10
CYNOSCION NEBULOSUS	0.10	0.87	0.10
ASTROSCOPUS Y-GRAECUM	0.10	0.15	0.10
CHASMODES SUBURRAE	0.10	0.18	0.10

DASYATIS SABINA	0.05	4.54	0.05
GYMNURA MICRURA	0.05	31.91	0.05
ANCHOA HEPSETUS	0.05	0.33	0.05
BAGRE MARINUS	0.05	0.50	0.05
OPSANUS BETA	0.05	2.78	0.05
OPHIDION GRAYI	0.05	0.74	0.05
SYNGNATHUS SP.	0.05	0.02	0.05
DIPLECTRUM FORMOSUM	0.05	1.32	0.05
CARANX HIPPOS	0.05	4.43	0.05
LUTJANUS GRISEUS	0.05	0.42	0.05
ORTHOPRISTIS CHRYSOPTERA	0.05	4.02	0.05
MUGIL CEPHALUS	0.05	1.81	0.05
SYMPHURUS PLAGIUSA	0.05	0.66	0.05

TOTAL FISH	52.75	1604.98	
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PENAEUS DUORARUM	66.75	279.17	0.95
CALLINECTES SAPIDUS	22.20	1089.74	0.95
LOLLIGUNCULA BREVIS	13.20	109.72	0.90
METOPORHAPHIS CALCARATA	11.45	5.69	0.95
PORTUNUS GIBBESTI	10.30	31.54	0.90
XANTHIDAE	2.30	1.06	0.75
SQUILLA EMPUSTIA	0.55	5.25	0.25
ALPHEUS HETEROCHAEIS	0.45	0.83	0.15
MENIPPE MERCENARIA	0.20	8.22	0.20
PETROLISTHES ARMATUS	0.15	0.04	0.15
PORTUNUS SPINIMANUS	0.15	2.86	0.10
PALAEON FLORIDANUS	0.10	0.02	0.10
TRACHYPENAEUS SIMILIS	0.05	0.02	0.05
HIPPOLYSMATA WURDMANNI	0.05	0.05	0.05
UPOGEBIA AFFINIS	0.05	0.02	0.05

TOTAL INVERTEBRATES	127.95	1534.28	
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IMPINGEMENT

SPECIES, NUMBER, AND WEIGHT OF ORGANISMS COLLECTED

UNIT 1

JANUARY 1984

SPECIES NAME	AVERAGE NUMBER PER 6 HOUR COLLECTION	AVERAGE WEIGHT PER 6 HOUR COLLECTION	FREQUENCY SAMPLED
OGCOEPHALUS RADIATUS	6.05	279.88	0.95
PRIONOTUS TRIBULUS	5.25	11.21	0.80
UROPHYCIS FLORIDANA	5.05	7.09	0.60
LAGODON RHOMBOIDES	3.05	13.09	0.45
HIPPOCAMPUS ERECTUS	1.80	4.22	0.85
MONACANTHUS CILIATUS	1.50	3.08	0.55
BAIRDIELLA CHRYSOURA	1.45	4.91	0.60
SPHOERIDES NEPHELUS	1.35	5.32	0.65
HYPSOBLENNIUS HENTZI	1.25	5.69	0.45
ANCHOA MITCHILLI	1.20	3.11	0.65
LACTOPHRYS QUADRICORNIS	1.00	5.10	0.60
SYNGNATHUS FLORIDAE	0.95	1.74	0.40
SYMPHURUS PLAGIUSA	0.90	8.07	0.45
ARIUS FELIS	0.80	5.05	0.50
ACHIRUS LINEATUS	0.50	0.38	0.35
GOBIESOX STRUMOSUS	0.40	1.24	0.30
MENIDIA SP.	0.40	0.48	0.30
SYNGNATHUS SCOVELLI	0.35	0.37	0.25
PRIONOTUS SCITULUS	0.35	1.72	0.30
ANCYLOPSETTA QUADROCELLATA	0.35	14.24	0.25
MEMBRAS MARTINICA	0.30	1.20	0.20
CHASMODES SUBURRAE	0.30	0.73	0.20
TRINECTES MACULATUS	0.30	3.43	0.30
OPSANUS BETA	0.25	0.72	0.25
CYNOSCION NEBULOSUS	0.25	3.22	0.25
HAEMULON AUROLINEATUM	0.20	1.59	0.10
CYNOSCION ARENARIUS	0.20	3.72	0.20
MYROPHIS PUNCTATUS	0.15	0.05	0.15
SYNGNATHUS LOUISIANAE	0.15	0.45	0.15
ASTROSCOPUS Y-GRAECUM	0.15	0.13	0.15
ETROPUS CROSSOTUS	0.10	0.55	0.10
CHILOMYCTERUS SCHOEPI	0.10	14.13	0.10
DASYATIS SABINA	0.05	37.50	0.05
GYMNURA MICRURA	0.05	11.14	0.05
OPHICHTHUS GOMESI	0.05	2.05	0.05
HARENGULA JAGUANA	0.05	1.88	0.05
SYNODUS FOETENS	0.05	1.88	0.05
PORICHTHYS PLECTRODON	0.05	1.70	0.05
OPHIDION GRAYI	0.05	0.56	0.05
FUNDULUS SIMILIS	0.05	0.15	0.05
MYCTEROPERCA MICROLEPIS	0.05	8.17	0.05
ORTHOPRISTIS CHRYSOPTERA	0.05	0.64	0.05
PEPRILUS BURTI	0.05	0.02	0.05

TOTAL FISH	36.95	471.68	
METOPORHAPHIS CALCARATA	166.75	82.51	0.95
PENAEUS DUORARUM	80.40	348.42	0.95
ALPHEUS HETEROCHAEELIS	16.85	32.66	0.90
CALLINECTES SAPIDUS	14.35	29.73	0.75
PORTUNUS GIBBESI	9.95	20.16	0.85
SQUILLA EMPUSIA	2.45	19.64	0.40
ALPHEUS NORMANNI	2.10	1.34	0.40
PALAEON FLORIDANUS	1.15	0.50	0.75
HIPPOLYSMATA WURDMANNI	0.85	0.46	0.30
PALAEONETES INTERMEDIUS	0.85	0.08	0.15
PETROLISTHES ARMATUS	0.45	0.24	0.30
XANTHIDAE	0.30	0.33	0.25
TRACHYPENAEUS SIMILIS	0.1	0.05	0.10
SESARMA RETICULATUM	0.05	0.05	0.05
TOTAL INVERTEBRATES	296.00	536.20	

## IMPINGEMENT

## SPECIES, NUMBER, AND WEIGHT OF ORGANISMS COLLECTED

## UNIT 2

JANUARY 1984

SPECIES NAME	AVERAGE NUMBER PER 6 HOUR COLLECTION	AVERAGE WEIGHT PER 6 HOUR COLLECTION	FREQUENCY SAMPLED
LAGODON RHOMBOIDES	15.45	69.76	0.85
ANCHOA MITCHILLI	13.90	15.71	0.90
BAIRDIELLA CHRYSOURA	13.85	91.86	0.95
PRIONOTUS TRIBULUS	9.45	35.39	0.90
OGCOCEPHALUS RADIATUS	7.75	406.39	1.00
UROPHYCIS FLORIDANA	6.00	8.42	0.85
LACTOPHRYS QUADRICORNIS	2.70	12.80	0.75
ARIUS FELIS	2.10	13.69	0.55
CYNOSCION NEBULOSUS	1.95	13.97	0.55
HYPSOBLENNIUS HENTZI	1.70	9.21	0.55
SPHOEROIDES NEPHELUS	1.65	5.40	0.65
HIPPOCAMPUS ERECTUS	1.50	6.96	0.70
PRIONOTUS SCITULUS	1.50	17.17	0.60
MONACANTHUS CILIATUS	1.40	2.97	0.60
MENIDIA SP.	1.15	2.98	0.60
SYMPHURUS PLAGIUSA	1.15	11.21	0.55
ANCHOA HEPSETUS	1.00	0.08	0.05
TRINECTES MACULATUS	0.80	16.16	0.45
ETROPUS CROSSOTUS	0.75	4.85	0.35
SYNGNATHUS FLORIDAE	0.60	0.99	0.40
ACHIRUS LINEATUS	0.55	0.53	0.25
MUGIL CEPHALUS	0.45	4.19	0.30
OPSANUS BETA	0.35	3.21	0.35
MEMBRAS MARTINICA	0.35	0.46	0.30
HAEMULON AUROLINEATUM	0.30	1.75	0.20
PEPRILUS BURTI	0.30	0.17	0.10
BREVOORTIA PATRONUS	0.25	12.46	0.25
CHILOMYCTERUS SCHOEPI	0.25	61.98	0.25
DASYATIS SABINA	0.15	69.21	0.15
SYNODUS FOETENS	0.15	2.57	0.15
SYNGNATHUS SCOVELLI	0.15	0.15	0.15
CHASMODES SUBURRAE	0.15	0.32	0.15
ANCYLOPSETTA QUADROCELLATA	0.15	3.39	0.15
MYROPHIS PUNCTATUS	0.10	0.02	0.10
OPHICHTHUS GOMESI	0.10	10.12	0.10
OPHIDION GRAYI	0.10	1.00	0.10
SYNGNATHUS LOUISIANAE	0.10	0.59	0.10
GOBIESOX STRUMOSUS	0.05	0.11	0.05
STRONGYLURA MARINA	0.05	1.91	0.05
STRONGYLURA NOTATA	0.05	0.11	0.05
FUNDULUS GRANDIS	0.05	0.33	0.05
DIPLECTRUM FORMOSUM	0.05	1.75	0.05
SERRANUS ATROBRANCHIUS	0.05	0.49	0.05
ECHENEIS NAUCRATES	0.05	0.28	0.05

EUCINOSTOMUS GULA	0.05	0.38	0.05
ARCHOSARGUS PROBATOCEPHALUS	0.05	8.81	0.05
CYNOSCION ARENARIUS	0.05	0.36	0.05
LEIOSTOMUS XANTHURUS	0.05	0.56	0.05
MENTICIRRHUS AMERICANUS	0.05	0.49	0.05
POGONIAS CROMIS	0.05	2.66	0.05
ASTROSCOPUS Y-GRAECUM	0.05	0.05	0.05
MICROGOBIUS THALASSINUS	0.05	0.01	0.05
SCORPAENA BRASILIENSIS	0.05	0.75	0.05
MONACANTHUS HISPIDUS	0.05	0.01	0.05

TOTAL FISH	91.15	937.29	
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PENAEUS DUORARUM	135.10	626.72	0.75
METOPORHAPHIS CALCARATA	127.05	63.73	1.00
CALLINECTES SAPIDUS	18.65	101.84	0.75
PORTUNUS GIBBESI	9.85	18.56	0.75
ALPHEUS HETEROCHAEUS	7.55	14.52	0.70
SQUILLA EMPUSIA	3.65	35.63	0.50
PALAEON FLORIDANUS	2.45	1.19	0.90
ALPHEUS NORMANNI	1.80	1.08	0.55
XANTHIDAE	1.70	0.99	0.70
PETROLISTHES ARMATUS	0.80	0.43	0.40
LOLLIGUNCULA BREVIS	0.60	4.74	0.25
HIPPOLYSMATA WURDMANNI	0.55	0.32	0.25
PALAEONETES INTERMEDIUS	0.50	0.15	0.20
LIBINIA DUBIA	0.35	0.81	0.20
TRACHYPENAEUS SIMILIS	0.15	0.08	0.15
PALAEONETES VULGARIS	0.10	0.03	0.10
UPOGEBIA AFFINIS	0.10	0.07	0.10
ANNELIDA	0.05	0.21	0.05
UCA SPECTOSA	0.05	0.01	0.05
PITHO LHERMINIERI	0.05	0.08	0.05

TOTAL INVERTEBRATES	311.10	871.24	
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## IMPINGEMENT

## SPECIES, NUMBER, AND WEIGHT OF ORGANISMS COLLECTED

## UNIT 3

JANUARY 1984

SPECIES NAME	AVERAGE NUMBER PER 6 HOUR COLLECTION	AVERAGE WEIGHT PER 6 HOUR COLLECTION	FREQUENCY SAMPLED
PRIONOTUS TRIBULUS	21.95	46.74	0.95
BAIRDIELLA CHRYSOURA	20.65	103.53	0.90
ANCHOA MITCHILLI	19.35	26.34	0.95
UROPHYCIS FLORIDANA	15.45	23.34	0.80
OGCOCEPHALUS RADIATUS	11.20	438.77	1.00
LAGODON RHOMBOIDES	7.85	33.43	0.80
SYMPHURUS PLAGIUSA	4.95	30.55	0.60
HIPPOCAMPUS ERECTUS	4.55	20.76	0.95
HYPSOBLENNIUS HENTZI	4.00	17.84	0.70
SPHOEROIDES NEPHELUS	3.65	10.66	0.80
PRIONOTUS SCITULUS	3.45	14.07	0.70
MONACANTHUS CILIATUS	3.25	6.81	0.65
LACTOPHRYS QUADRICORNIS	2.95	25.77	0.80
MENIDIA SP.	2.75	5.15	0.60
ARIUS FELIS	2.60	31.26	0.40
SYNGNATHUS FLORIDAE	2.45	2.98	0.50
CYNOSCION NEBULOSUS	1.60	14.93	0.50
PEPRILUS BURTI	1.55	0.76	0.15
SYNGNATHUS SCOVELLI	1.45	1.29	0.55
CHASMODES SUBURRAE	1.35	2.80	0.45
MEMBRAS MARTINICA	1.20	2.88	0.45
OPSANUS BETA	1.00	2.37	0.40
ACHIRUS LINEATUS	0.95	1.86	0.50
MYROPHIS PUNCTATUS	0.90	0.37	0.50
TRINECTES MACULATUS	0.85	12.08	0.30
ETROPUS CROSSOTUS	0.80	6.74	0.40
GOBIESOX STRUMOSUS	0.55	1.49	0.35
BREVOORTIA PATRONUS	0.40	2.18	0.15
ANCYLOPSETTA QUADROCELLATA	0.40	0.36	0.25
SYNGNATHUS LOUISIANAE	0.30	0.56	0.30
HAEMULON AUROLINEATUM	0.30	2.43	0.15
ASTROSCOPUS Y-GRAECUM	0.30	0.47	0.30
CHILOMYCTERUS SCHOEPI	0.30	40.53	0.20
DASYATIS SABINA	0.15	63.57	0.10
HARENGULA JAGUANA	0.15	5.11	0.05
SYNODUS FOETENS	0.15	2.53	0.15
CYNOSCION ARENARIUS	0.15	2.21	0.15
GYMNOTHORAX NIGROMARGINATUS	0.10	7.49	0.10
OPHICHTHUS GOMESI	0.10	6.41	0.05
ANCHOA HEPSETUS	0.10	0.33	0.10
CENTROPRISTIS STRIATA	0.10	15.49	0.10
LEIOSTOMUS XANTHURUS	0.10	1.10	0.05
ELOPS SAURUS	0.05	5.84	0.05
CLUPEID	0.05	0.17	0.05

BREVOORTIA GUNTERI	0.05	0.28	0.05
OPHISTHONEMA OGLINUM	0.05	0.78	0.05
PORICHTHYS PLECTRODON	0.05	1.32	0.05
HIPPOCAMPUS ZOSTERAE	0.05	0.00	0.05
SERRANUS ATROBRANCHUS	0.05	0.22	0.05
APOGON AUROLINEATUS	0.05	0.08	0.05
ARCHOSARGUS PROBATOCEPHALUS	0.05	23.73	0.05
MENTICIRRHUS AMERICANUS	0.05	0.79	0.05
MUGIL CEPHALUS	0.05	0.14	0.05
FAMILY OPISTOGNATHIDAE	0.05	0.27	0.05
PEPRILUS ALEPIDOTUS	0.05	9.85	0.05
ALUTERUS SCHOEFFI	0.05	6.97	0.05

TOTAL FISH	147.05	1087.95	
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METOPORHAPHIS CALCARATA	233.95	122.94	1.00
PENAEUS DUORARUM	140.00	717.15	0.80
ALPHEUS HETEROCHAEIS	61.10	113.70	0.95
CALLINECTES SAPIDUS	33.20	214.98	0.80
PORTUNUS GIBBESI	22.00	44.48	0.80
PALAEON FLORIDANUS	5.70	2.34	0.90
ALPHEUS NORMANNI	5.15	3.17	0.60
XANTHIDAE	4.90	4.19	0.85
SQUILLA EMPUSIA	4.55	33.23	0.35
PALAEONETES INTERMEDIUS	1.45	0.41	0.40
HIPPOLYSMATA WURDMANNI	1.05	0.46	0.20
PETROLISTHES ARMATUS	0.70	0.25	0.30
TRACHYPENAEUS SIMILIS	0.30	0.10	0.20
PALAEONETES VULGARIS	0.30	0.09	0.05
LIBINIA DUBIA	0.30	0.23	0.20
MENIPPE MERCENARIA	0.25	7.28	0.15
LOLLIGUNCULA BREVIS	0.15	1.45	0.10
NEMERTINEA	0.05	0.16	0.05
ANNELIDA	0.05	0.03	0.05
UCA SP.	0.05	0.04	0.05
PELIA MUTICA	0.05	0.02	0.05

TOTAL INVERTEBRATES	515.25	1266.73	
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## IMPINGEMENT

## SPECIES, NUMBER, AND WEIGHT OF ORGANISMS COLLECTED

## UNIT 1

FEBRUARY 1984

SPECIES NAME	AVERAGE NUMBER PER 6 HOUR COLLECTION	AVERAGE WEIGHT PER 6 HOUR COLLECTION	FREQUENCY SAMPLED
PRIONOTUS TRIBULUS	22.13	19.97	1.00
OGCOEPHALUS RADIATUS	19.38	953.16	1.00
LAGODON RHOMBOIDES	9.75	4.01	0.50
PEPRILUS BURTI	9.75	5.35	1.00
UROPHYCIS FLORIDANA	8.75	15.57	0.88
SPHOEROIDES NEPHELUS	3.00	12.17	0.75
CHILOMYCTERUS SCHOEPI	1.63	246.31	0.63
ANCHOA MITCHILLI	1.38	2.31	0.63
ALUTERUS SCHOEPI	1.25	451.95	0.75
LACTOPHRYS QUADRICORNIS	1.13	98.02	0.63
ANCYLOPSETTA QUADROCELLATA	0.75	0.61	0.50
HIPPOCAMPUS ERECTUS	0.50	3.54	0.50
ACHIRUS LINEATUS	0.50	0.59	0.38
MEMBRAS MARTINICA	0.38	1.35	0.38
BAIRDIELLA CHRYSOURA	0.38	3.44	0.25
DASYATIS SABINA	0.25	39.45	0.25
MYROPHIS PUNCTATUS	0.25	0.07	0.25
OPSANUS BETA	0.25	1.19	0.25
GOBIESOX STRUMOSUS	0.25	1.64	0.13
TRINECTES MACULATUS	0.25	1.56	0.25
MONACANTHUS CILIATUS	0.25	0.32	0.25
CYNOSCION NEBULOSUS	0.13	7.67	0.13
ASTROSCOPUS Y-GRAECUM	0.13	0.06	0.13
CHASMODES SUBURRAE	0.13	0.20	0.13
HYPSOBLENNIUS HENTZI	0.13	0.27	0.13
PRIONOTUS SCITULUS	0.13	0.52	0.13
TOTAL FISH	82.75	1871.35	
PENAEUS DUORARUM	317.25	1400.69	1.00
CALLINectes SAPIDUS	40.63	99.32	1.00
METOPORHAPHIS CALCARATA	36.13	23.70	1.00
PORTUNUS GIBBESI	7.75	14.44	0.88
ALPHEUS HETEROCHAEILIS	3.88	7.36	0.50
PALAEON FLORIDANUS	2.63	1.51	0.50
SQUILLA EMPUSIA	2.38	15.20	0.75
XANTHIDAE	0.50	0.44	0.38
MENIPPE MERCENARIA	0.25	21.35	0.25
LOLLIGUNCULA BREVIS	0.25	2.88	0.13
PETROLISTHES ARMATUS	0.13	0.05	0.13
TOTAL INVERTEBRATES	411.75	1586.94	

## IMPINGEMENT

## SPECIES, NUMBER, AND WEIGHT OF ORGANISMS COLLECTED

## UNIT 2

FEBRUARY 1984

SPECIES NAME	AVERAGE NUMBER PER 6 HOUR COLLECTION	AVERAGE WEIGHT PER 6 HOUR COLLECTION	FREQUENCY SAMPLED
PRIONOTUS TRIBULUS	20.63	27.35	1.00
OGCOCEPHALUS RADIATUS	20.25	1378.96	1.00
PEPRILUS BURTI	19.13	12.26	0.88
UROPHYCIS FLORIDANA	13.50	28.77	0.88
ANCHOA MITCHILLI	10.13	15.67	1.00
CHILOMYCTERUS SCHOEPI	8.88	1698.06	0.75
ALUTERUS SCHOEPI	4.75	2159.32	0.75
SPHOEROIDES NEPHELUS	3.00	14.27	0.75
LACTOPHRYS QUADRICORNIS	2.25	234.17	1.00
EUCINOSTOMUS GULA	1.38	10.02	0.25
LAGODON RHOMBOIDES	0.75	4.22	0.50
MEMBRAS MARTINICA	0.63	2.76	0.38
BAIRDIELLA CHRYSOURA	0.63	8.59	0.38
HIPPOCAMPUS ERECTUS	0.50	3.39	0.50
ETROPUS CROSSOTUS	0.50	4.64	0.50
TRINECTES MACULATUS	0.50	4.71	0.50
SYMPHURUS PLAGIUSA	0.50	6.16	0.13
SYNODUS FOETENS	0.38	14.54	0.25
GOBIESOX STRUMOSUS	0.38	1.10	0.13
MUGIL CEPHALUS	0.38	0.14	0.13
PRIONOTUS SCITULUS	0.38	3.20	0.25
ANCYLOPSETTA QUADROCELLATA	0.38	0.30	0.38
ANCHOA HEPSETUS	0.25	1.61	0.25
OPSANUS BETA	0.25	1.40	0.25
SYNGNATHUS SCOVELLI	0.25	0.35	0.25
DASYATIS SABINA	0.13	74.75	0.13
MYROPHIS PUNCTATUS	0.13	0.09	0.13
OPHICHTHUS GOMESI	0.13	3.60	0.13
BREVOORTIA PATRONUS	0.13	9.69	0.13
ARIUS FELIS	0.13	1.41	0.13
MENIDIA SP.	0.13	0.56	0.13
SYNGNATHUS FLORIDAE	0.13	0.25	0.13
SERRANUS ATROBRANCHUS	0.13	1.27	0.13
ARCHOSARGUS PROBATOCEPHALUS	0.13	94.36	0.13
CYNOSCION NEBULOSUS	0.13	2.63	0.13
ASTROSCOPUS Y-GRAECUM	0.13	0.05	0.13
HYPSOBLENNIUS HENTZI	0.13	1.77	0.13
TOTAL FISH	112.00	5826.44	
PENAEUS DUORARUM	314.13	1413.74	1.00
CALLINECTES SAPIDUS	25.13	166.47	1.00

METOPORHAPHIS CALCARATA  
 PORTUNUS GIBBESI  
 PALAEMON FLORIDANUS  
 ALPHEUS NORMANNI  
 SQUILLA EMPUSIA  
 XANTHIDAE  
 LOLLIGUNCULA BREVIS  
 MENIPPE MERCENARIA  
 TRACHYPENAEUS SIMILLIS  
 ALPHEUS HETEROCHAEUS  
 HIPPOLYSMATA WUDEMANNI  
 LIBINIA DUBIA  
 PETROLISTHES ARMATUS

11.75  
 5.25  
 2.00  
 1.75  
 1.63  
 1.00  
 0.88  
 0.38  
 0.25  
 0.25  
 0.25  
 0.25  
 0.13

7.22  
 6.25  
 1.11  
 3.30  
 12.55  
 1.37  
 1.36  
 4.80  
 0.10  
 0.40  
 0.10  
 0.45  
 0.04

0.88  
 0.75  
 0.38  
 0.13  
 0.63  
 0.38  
 0.38  
 0.25  
 0.13  
 0.25  
 0.13  
 0.13  
 0.13

TOTAL INVERTEBRATES

365.00

1619.27

## IMPINGEMENT

## SPECIES, NUMBER, AND WEIGHT OF ORGANISMS COLLECTED

## UNIT 3

FEBRUARY 1984

SPECIES NAME	AVERAGE NUMBER PER 6 HOUR COLLECTION	AVERAGE WEIGHT PER 6 HOUR COLLECTION	FREQUENCY SAMPLED
PRIONOTUS TRIBULUS	119.50	163.62	1.00
PEPRILUS BURTI	69.00	44.01	1.00
OGCOCEPHALUS RADIATUS	55.25	2713.85	1.00
ANCHOA MITCHILLI	49.50	63.74	0.88
UROPHYCIS FLORIDANA	28.88	43.01	1.00
CHILCMYCTERUS SCHOEPI	15.88	2701.41	1.00
SPHOERODES NEPHEUS	15.13	56.21	1.00
ALUTERUS SCHOEPI	6.13	2566.56	0.63
LACTOPHRYS QUADRICORNIS	5.13	355.20	1.00
LAGODON RHOMBOIDES	3.88	24.47	1.00
MEMBRAS MARTINICA	2.75	9.29	0.68
TRINECTES MACULATUS	2.25	23.87	0.63
BAIRDIELLA CHRYSOURA	2.13	15.42	0.63
ANCYLOPSETTA QUADROCELLATA	2.00	1.72	0.88
HIPPOCAMPUS ERECTUS	1.50	4.75	0.75
HYPISOBLANNIUS HENTZI	1.13	11.40	0.63
CYNOSCIION NEBULOSUS	0.88	69.00	0.38
ACHIRUS LINEATUS	0.88	5.74	0.38
OPHICHTHUS GOMESI	0.63	28.01	0.25
PORICHTHYS PLECTRODON	0.63	42.70	0.25
ASTROSCOPUS Y-GRAECUM	0.63	0.44	0.38
CHASMODES SUBURRAE	0.63	2.06	0.25
PRIONOTUS SCITULUS	0.63	2.86	0.38
SYMPHURUS PLAGIUSA	0.63	2.52	0.38
MONACANTHUS CILIATUS	0.63	1.04	0.50
DASYATIS SABINA	0.50	59.89	0.38
OPSANUS BETA	0.50	1.89	0.38
STRONGYLURA MARTINA	0.50	1.15	0.13
ETROPUS CROSSOTUS	0.50	5.80	0.13
SYNGNATHUS FLORIDAE	0.38	0.70	0.38
CHAETODIPTERRUS FABER	0.38	6.01	0.38
MONACANTHUS HISPIDUS	0.38	0.45	0.25
MYROPHIS PUNCTATUS	0.25	0.11	0.25
GOBIESOX STRUMOSUS	0.25	0.86	0.13
SYNGNATHUS SCOVELLI	0.25	0.36	0.13
BREVOORTIA PATRONUS	0.13	1.29	0.13
ANCHOA HEPSETUS	0.13	0.81	0.13
SYNDIUS FOETENS	0.13	2.38	0.13
ARIUS FELIS	0.13	0.69	0.13
MENIDIA SP.	0.13	0.35	0.13
SYNGNATHUS LOUISIANAE	0.13	0.13	0.13
ORTHOPRISTIS CHRYSOPTERA	0.13	1.19	0.13
CYNOSCIION ARENARIUS	0.13	0.50	0.13
SCIAENOPS OCELLATUS	0.13	0.52	0.13

MUGIL CEPHALUS	0.13	1.70	0.13
UNIDENTIFIED	0.13	3.04	0.13
TOTAL FISH	391.38	9042.75	

PENAEUS DUORARUM	731.75	3149.44	1.00
METOPORHAPHIS CALCARATA	79.75	51.41	1.00
CALLINECTES SAPIDUS	75.75	239.97	1.00
PORTUNUS GIBBESI	10.50	19.11	0.88
ALPHEUS HETEROCHAEIS	7.38	16.71	0.63
SQUILLA EMPUSIA	7.13	47.27	0.88
PALAEMON FLORIDANUS	6.63	3.24	0.50
XANTHIDAE	3.75	3.52	0.63
PETROLISTHES ARMATUS	1.13	0.65	0.25
TOZEUMA CAROLINENSE	0.50	0.15	0.13
PELIA MUTICA	0.25	0.07	0.13
TRACHYPENAEUS SIMILIS	0.13	0.16	0.13
LIBINIA DUBIA	0.13	0.10	0.13
LOLLIGUNCULA BREVIS	0.13	0.25	0.13
TOTAL INVERTEBRATES	924.88	3532.07	

## JULY 21, 1983

SPECIES NAME	A	B	C	D	E	F	G	H	I	J	K
FAMILY CLUPEIDAE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.290	0.418	0.000	0.270
HARENGULA JAGUANA	0.882	0.000	0.230	0.000	0.000	0.938	0.000	4.597	14.150	2.290	9.172
OPHIOTHONEMA OGLINUM	6.618	5.187	19.735	64.317	6.898	9.097	70.677	98.435	467.632	127.448	500.538
FAMILY ENGRAULIDAE	4.088	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ANCHOA HEPSETUS	74.867	64.465	32.072	2.333	3.782	21.697	42.463	30.950	36.868	32.833	48.642
ANCHOA MITCHILLI	148.440	398.578	112.218	195.195	54.005	1670.04	3777.53	174.368	73.310	33.608	54.230
ANCHOA SP.	270.883	107.445	69.100	110.202	34.938	76.250	184.400	191.197	314.745	71.767	130.845
GOBIESOX STRUMOSUS	0.000	0.345	0.000	0.000	0.760	0.372	0.000	0.000	0.000	0.240	0.000
HEMIRHAMPHUS BRASILIENSIS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.270
HYPORHAMPHUS UNIFASCIATUS	0.000	0.000	0.000	0.000	0.000	0.848	0.000	0.467	0.515	0.415	0.332
MEMBRAS MARTINICA	0.000	0.000	0.115	0.467	0.000	0.000	0.000	0.000	0.000	0.240	0.000
MENIDIA BERYLLINA	0.000	0.000	0.115	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
HIPPOCAMPUS ERECTUS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.278
HIPPOCAMPUS ZOSTERAE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.352	0.270
MICROGNATHUS CRINIGER	0.000	0.000	0.000	0.000	0.000	0.445	0.000	0.145	0.557	1.698	1.183
SYNGNATHUS FLORIDAE	1.778	0.125	0.252	0.000	0.000	0.000	0.000	0.140	0.517	0.000	0.585
SYNGNATHUS LOUISIANAE	0.222	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.233	0.000	0.233
SYNGNATHUS SCOVELLI	0.000	0.000	0.278	0.000	0.760	0.000	0.000	0.000	0.000	0.000	0.000
CHLOROSCOMBRUS CHRYSURUS	13.363	0.373	0.000	1.295	0.000	0.817	0.630	3.818	1.567	0.340	1.465
OLIGOPLITES SAURUS	2.330	0.720	0.762	1.230	1.517	1.255	0.572	5.777	1.502	0.713	1.490
EUCINOSTOMUS SP.	0.000	0.123	0.115	0.388	0.000	0.000	0.150	0.000	0.138	0.232	0.558
FAMILY SCIAENIDAE	189.750	0.000	310.423	431.567	306.167	8.033	52.813	278.567	181.017	1218.17	630.000
BAIRDIELLA CHRYSOURA	0.450	0.000	0.000	0.000	0.000	0.000	0.000	0.717	0.857	0.240	0.000
CYNOSCION ARENARIUS	9.475	0.373	0.000	0.388	0.000	0.000	1.162	30.542	5.038	0.767	4.488
CYNOSCION NEBULOSUS	1.152	0.625	1.042	3.303	2.563	3.455	1.202	5.105	11.133	54.667	8.570
MENTICIRRHUS SAXATILIS	0.222	0.302	0.252	0.000	0.000	0.000	0.000	2.667	0.467	0.000	0.000
MENTICIRRHUS SP.	3.473	0.473	1.580	0.895	0.823	1.637	4.507	5.710	7.973	2.647	6.452
CHAETODIPTERUS FABER	0.235	0.248	0.505	0.428	0.760	0.000	1.992	5.338	4.840	1.647	5.505
PARACLINUS FASCIATUS	0.153	0.748	1.258	2.195	0.000	5.592	0.000	0.723	5.963	7.070	1.565
FAMILY BLENNIIDAE	0.000	0.000	0.000	0.000	0.760	0.000	0.000	0.000	0.000	0.000	0.000
UNIDENTIFIED BLENNY	1.033	5.490	6.002	5.228	4.483	13.192	1.892	1.207	0.280	69.610	3.735
FAMILY CALLIONYMIIDAE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.720	0.000	1.540	0.558
FAMILY GOBIIDAE	65.733	1.617	1.565	0.000	0.000	1.657	0.120	2.250	0.000	0.465	0.322
BATHYGOBIUS SOPORATOR	0.153	0.828	7.110	0.388	0.000	2.570	2.858	1.350	2.142	7.797	4.000
GOBIOSOMA ROBUSTUM	125.700	100.917	45.095	5.255	2.087	25.213	21.510	18.200	138.945	148.000	36.343
MICROGOBIUS GULOSUS	362.567	12.407	5.645	0.817	0.000	3.700	2.285	0.430	0.300	0.705	2.915
PEPRILUS ALEPIDOTUS	0.130	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PRIONOTUS SP.	0.130	0.000	0.000	0.388	0.413	0.000	0.345	8.023	1.118	0.240	0.278
FAMILY TRIGLIDAE/SOLEIDAE	0.668	0.000	0.000	0.442	0.000	0.000	0.955	9.283	2.483	20.283	52.283
ACHIRUS LINEATUS	14.072	4.755	2.462	4.983	4.267	10.962	8.243	26.638	23.260	22.348	17.952
SYMPHURUS PLAGIOSA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.145	0.138	0.000	0.278
MONACANTHUS SP.	0.795	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.608	0.000	0.000
FAMILY OSTRACIIDAE	0.000	0.000	0.000	0.428	0.000	0.000	0.000	0.287	0.000	0.712	0.880
UNIDENTIFIED	16.572	0.698	5.405	3.777	2.075	8.078	4.328	38.463	64.058	90.555	38.348
UNIDENTIFIED-DAMAGED	14.750	4.117	14.680	15.212	3.955	0.808	28.787	16.427	3.883	13.070	12.170
ENAEUS SP.	2.453	1.100	0.368	0.000	0.435	0.387	0.792	0.000	0.000	1.595	1.410





## DENSITY BY STATION

NUMBER PER 100 CUBIC METERS

AUGUST 1, 1983

SPECIES NAME	A	B	C	D	E	STATION	F	G	H	I	J	K
MYROPHIS PUNCTATUS	0.000	0.437	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000
FAMILY CLUPEIDAE	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	13.150	0.000	0.000
CLUPEID	0.000	0.000	0.000	0.000	0.000		0.000	0.000	330.667	3.495	0.000	0.000
HARENGULA JAGUANA	0.000	0.000	0.000	0.383	0.000		0.000	0.000	5.527	0.802	0.000	0.000
OPISTHONEMA OGLINUM	43.972	0.518	0.332	0.000	0.000		0.000	0.000	105.007	59.033	1.930	36.897
FAMILY ENGRAULIDAE	0.000	0.000	0.000	0.000	0.000		0.000	0.882	10.217	15.450	0.000	20.693
ANCHOA HEPSETUS	107.868	19.312	20.467	2.940	2.458		17.242	177.528	47.850	39.518	59.772	15.113
ANCHOA MITCHILLI	313.733	122.958	125.717	46.033	123.017		30.267	2025.57	23.133	22.312	105.875	291.078
ANCHOA SP.	191.680	22.255	69.383	13.710	36.173		47.577	227.900	3.097	29.680	102.128	16.457
FAMILY EXOCOETIDAE	0.000	0.000	0.000	0.000	0.000		0.000	0.487	0.000	0.000	0.000	0.000
HYPORHAMPHUS UNIFASCIATUS	1.155	0.000	0.000	0.000	0.000		0.000	0.000	0.390	0.000	0.000	0.000
FAMILY POECILIIDAE	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000
MEMBRAS MARTINICA	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.178
MENIDIA BERYLLINA	0.000	0.000	0.000	0.000	0.000		0.217	0.000	0.000	0.000	0.000	0.000
HIPPOCAMPUS ERECTUS	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.205	0.000	0.000
HIPPOCAMPUS ZOSTERAE	0.000	0.000	0.000	0.000	0.000		0.462	0.000	0.000	0.000	0.000	0.000
SYNGNATHUS FLORIDAE	0.000	0.000	0.000	0.000	0.000		0.693	0.000	0.000	0.708	1.978	0.000
SYNGNATHUS LOUISIANAE	0.000	0.000	0.000	0.630	0.000		0.000	0.000	0.000	0.187	0.000	0.000
SYNGNATHUS SCOVELLI	0.000	0.000	0.000	0.000	0.000		0.000	5.137	0.390	0.000	1.045	0.280
SYNGNATHUS SP.	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.225	0.238
CHLOROSCOMBRUS CHRYSURUS	1.750	0.000	0.000	0.000	0.327		0.233	0.000	1.530	0.205	0.517	0.000
OLIGOPLITES SAURUS	0.000	0.000	0.000	0.000	0.308		0.000	0.662	0.000	0.000	0.000	0.000
EUCINOSTOMUS SP.	0.980	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000
FAMILY SCIAENIDAE	22.867	0.000	218.667	0.375	9.883		0.000	0.000	340.117	29.617	99.925	140.117
BATARDIELLA CHRYSSOURA	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.205	0.000	0.000
CYNOSCION ARENARIUS	2.133	0.000	2.180	0.000	0.000		0.245	4.615	1.437	0.187	0.000	0.617
CYNOSCION NEBULOSUS	2.845	0.518	0.000	0.630	0.000		0.240	0.000	5.595	1.232	0.000	2.247
MENTICIRRHUS SAXATILIS	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.585	0.000	0.000
MENTICIRRHUS SP.	6.810	0.000	0.333	0.000	0.000		0.243	1.385	2.770	1.585	1.160	0.973
CHAETODIPTERRUS FABER	1.068	0.462	0.000	0.000	0.000		0.433	0.433	0.382	0.000	0.000	1.020
PARACLINUS FASCIATUS	0.000	0.000	0.000	0.298	0.000		2.943	0.465	0.772	0.545	1.765	0.205
UNIDENTIFIED BLENNY	0.533	2.482	3.877	5.737	2.738		37.990	0.973	0.332	0.537	13.077	0.683
FAMILY CALLIONYMIIDAE	0.533	0.000	0.000	0.000	0.000		0.000	0.000	13.413	0.775	4.133	0.430
FAMILY GOBIIDAE	4.433	0.000	19.775	2.335	0.282		59.817	81.032	0.000	8.483	14.100	0.000
BATHYGOBIUS SOPORATOR	2.510	0.190	0.332	0.000	0.000		0.000	2.823	2.143	1.238	5.532	1.425
GEBIOTELLUS HASTATUS	0.000	0.000	0.000	0.000	0.000		10.903	0.000	0.000	0.000	0.000	0.000
GOBIOSOMA ROBUSTUM	47.815	45.695	218.167	20.277	22.623		42.383	275.817	94.297	117.873	118.848	50.697
MICROGOBIUS GULOSUS	0.000	42.540	38.458	4.150	14.583		43.473	1106.17	0.000	0.000	9.305	0.357
PRIONOTUS SP.	0.000	0.000	0.000	0.000	0.000		0.000	0.000	2.705	0.607	0.000	0.225
FAMILY TRIGLIDAE/SOLEIDAE	6.398	0.000	0.000	0.000	0.000		0.000	0.000	7.375	0.197	0.882	11.183
ACHIRUS LINEATUS	5.638	2.368	5.223	1.607	2.187		2.608	7.167	3.812	2.643	5.748	3.577
SYMPHURUS PLAGIOSA	0.000	0.000	0.000	0.000	0.000		0.217	0.487	0.382	0.332	0.393	0.410
MONACANTHUS SP.	0.488	0.000	0.000	0.000	0.000		0.000	0.000	0.332	0.000	0.000	0.000
FAMILY OSTRACIIDAE	0.998	0.000	0.000	0.000	0.000		0.217	0.843	1.442	0.862	0.365	0.562
SPHEROIDES SP.	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.205	0.000	0.000
UNIDENTIFIED	71.215	0.178	101.490	11.900	1.755		1.600	6.200	75.205	49.598	151.032	127.450

UNIDENTIFIED-DAMAGED	11.200	0.000	0.332	2.300	6.483	39.800	62.883	1.563	27.700	54.587	1.250
PENAEUS SP.	2.977	2.795	1.797	0.000	0.000	0.490	5.352	2.203	0.685	2.603	0.205
TRACHYPENAEUS SP.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	21.017	0.000	0.000	0.000
CALLINECTES SP.	0.000	0.000	0.000	0.375	0.000	0.000	0.487	0.000	0.292	0.000	0.000
MENIPPE MERCENARIA	3069.59	1275.27	58.083	68.045	86.210	558.592	262.262	3710.5	1832.87	999.037	1814.78
TOTAL OF AVERAGE DENSITIES	3920.21	1538.96	884.612	181.725	309.028	905.082	4257.55	4815.6	2263.7	1755.8	2539.78

## ENTRAINMENT

## DENSITY BY STATION

## NUMBER PER 100 CUBIC METERS

AUGUST 15, 1983

SPECIES NAME	A	B	C	D	E	F	G	H	I	J	K
MYOPHIS PUNCTATUS	0.235	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FAMILY CLUPEIDAE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.768	0.000	0.000	0.000
CLUPEID	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.683	0.000	0.000
HARENGULA JAGUANA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.342	0.000	0.000
OPHISTHONEMA OGLINUM	0.000	0.000	0.000	0.345	0.000	0.000	0.000	23.467	2.297	0.183	13.850
ANCHOA HEPSETUS	14.767	0.000	0.235	3.305	5.958	2.027	8.042	5.207	0.000	1.210	10.850
ANCHOA MITCHILLI	506.170	130.470	44.233	121.862	86.580	111.015	303.095	368.303	1012.09	236.713	1557.05
ANCHOA SP.	47.350	9.488	19.937	75.783	98.902	142.205	167.250	32.272	6.473	45.542	105.633
GOBIESOX STRUMOSUS	0.000	0.000	0.000	0.000	0.000	0.000	0.265	0.000	0.000	0.127	0.000
HYPORHAMPUS UNIFASCIATUS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.298	0.258	0.000
FAMILY ATHERINIDAE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.183	0.000
MEMBRAS MARTINICA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.198
HIPPOCAMPUS ZOSTERAE	0.000	0.000	0.000	0.345	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SYNGNATHUS FLORIDAE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.997	0.000	0.257
SYNGNATHUS LOUISIANAE	0.000	0.000	0.000	0.000	0.000	0.290	0.000	0.000	0.000	0.183	0.000
SYNGNATHUS SCOVELLI	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.298	7.372	0.423
FAMILY SCIAENIDAE	13.533	0.262	231.788	277.097	149.243	8.287	2.418	163.683	74.250	49.835	48.733
BAIRDIELLA CHRYSOURA	0.000	0.000	0.315	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CYNOSCION ARENARIUS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.368	0.000
CYNOSCION NEBULOSUS	0.000	0.948	0.000	0.000	0.000	0.000	0.000	0.000	0.342	0.000	0.288
METICIRRHUS SAXATILIS	0.000	0.000	0.000	0.000	0.000	0.205	0.000	0.000	0.000	0.000	0.000
METICIRRHUS SP.	0.000	0.000	0.000	0.000	0.000	0.470	1.617	0.000	0.000	0.000	0.000
CHAETODIPTERRUS FABER	0.000	0.000	0.000	0.000	0.252	0.205	0.482	0.000	0.233	0.000	0.000
PARALINUS FASCIATUS	0.000	0.000	0.000	0.000	0.273	6.040	0.265	0.000	0.683	1.698	0.000
FAMILY BLENNIIDAE	0.000	0.000	0.000	1.243	0.000	0.000	0.000	0.000	1.630	2.878	0.410
UNIDENTIFIED BLENNY	0.472	0.313	0.000	0.000	0.000	0.000	0.000	0.000	0.298	0.000	0.000
FAMILY CALLIONYMIDAE	1.407	0.000	0.000	0.000	0.000	0.410	0.000	1.737	1.600	0.000	1.737
CALLIONYMUS PAUCIRADIATUS	78.587	0.325	1.198	1.193	0.283	3.310	0.000	0.000	1.278	0.000	0.000
FAMILY GOBIIDAE	1.358	0.313	1.102	0.000	0.568	0.000	0.000	0.000	0.000	0.000	0.000
BATHYGObIUS SOPERATOR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GOBIONELLUS HASTATUS	90.290	3.965	142.050	2.783	3.730	29.305	10.540	84.532	25.917	7.592	39.893
GOBIOSOMA ROBUSTUM	18.467	12.705	4.182	0.895	0.557	38.817	7.255	0.000	0.000	0.000	0.000
MICROGOBIUS GULOSUS	0.000	0.000	0.000	0.323	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PRIONOTUS CAROLINUS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.433	0.000	0.000	0.000
PRIONOTUS SP.	0.000	0.000	0.000	0.000	0.000	1.232	1.352	10.700	96.000	3.805	17.965
FAMILY TRIGLIDAE/SOLEIDAE	4.222	0.000	0.000	0.345	0.000	2.220	3.865	2.523	7.992	5.828	9.430
ACHIRUS LINEATUS	1.593	2.552	2.027	3.285	0.000	0.000	0.000	0.000	0.233	0.000	0.000
MONACANTHUS SP.	0.000	0.000	0.000	0.000	0.568	0.000	0.682	0.000	0.360	0.180	0.545
FAMILY OSTRACIIDAE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.867
SPHOEROIDES SP.	0.000	0.000	0.000	0.000	0.000	10.772	24.150	46.455	42.142	44.998	62.773
UNIDENTIFIED	15.400	0.242	0.000	14.950	20.173	0.000	0.000	6.878	1.423	0.000	1.158
UNIDENTIFIED-DAMAGED	53.900	0.325	1.012	0.850	2.017	0.000	14.933	6.878	0.000	2.295	1.703
PENAEUS SP.	0.910	9.517	6.498	0.700	0.525	0.580	0.408	0.000	0.000	0.000	0.000
TRACHYPENAEUS SP.	0.000	0.000	0.000	0.000	1.038	0.000	0.000	0.000	0.000	0.000	0.000
MENIPPE MERCENARIA	956.778	30.497	61.143	51.493	38.050	225.970	262.198	942.218	129.997	55.413	3063.69

TOTAL OF AVERAGE DENSITIES 1805.44 201.922 515.720 557.122 410.938 585.003 812.775 1695.49 1409.24 466.663 4937.46



## ENTRAINMENT

## DENSITY BY STATION

## NUMBER PER 100 CUBIC METERS

AUGUST 31, 1983

SPECIES NAME	A	B	C	D	E	F	G	H	I	J	K
FAMILY CLUPEIDAE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	51.833	78.343	1.883	0.000
CLUPEID	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	25.833	0.000	0.000
HARENGULA JAGUANA	0.107	0.000	0.000	0.000	0.000	0.000	0.000	0.205	0.000	0.000	0.203
OPHISTHONEMA OGLINUM	0.000	0.000	0.000	0.000	0.000	0.000	0.000	49.333	2.488	0.000	8.233
FAMILY ENGRAULIDAE	0.000	0.000	0.000	0.000	0.195	0.000	0.258	11.300	14.283	0.000	0.000
ANCHOA HEPSETUS	9.543	0.000	0.557	2.310	5.715	0.000	8.155	7.650	1.970	24.483	81.890
ANCHOA MITCHILLI	2096.92	195.747	290.305	746.198	1250.34	242.250	1193.14	170.358	1494.93	1191.77	2744
ANCHOA SP.	354.883	6.033	49.650	35.807	79.417	142.733	125.880	886.950	102.533	80.833	107.317
PORCHITHYS PLEURODON	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.175	0.000	0.000	0.000
GOBIESOX STRUMOSUS	0.000	0.000	0.000	0.000	0.195	0.417	0.790	0.000	0.000	0.000	0.000
FAMILY EXOCOETIDAE	0.000	0.000	0.000	0.000	0.000	0.000	0.258	0.000	0.000	0.000	0.000
HYPORHAMPUS UNIFASCIATUS	0.127	0.000	0.000	0.000	0.000	0.353	0.753	0.557	0.172	0.188	0.397
FAMILY ATHERINIDAE	0.000	0.163	0.000	0.000	0.000	0.000	4.230	0.000	0.000	0.000	0.000
MEMBRAS MARTINICA	0.000	0.000	0.180	0.000	0.380	0.175	0.210	0.000	0.000	0.353	0.000
MENIDIA SP.	0.000	0.000	0.000	0.000	0.000	0.875	0.000	0.000	0.000	0.000	0.000
FAMILY SYNGNATHIDAE	0.000	0.000	0.000	0.000	0.000	0.332	0.000	0.000	0.000	0.000	0.000
HIPPOCAMPUS ERECTUS	0.000	0.000	0.000	0.000	0.000	0.165	0.467	0.173	0.372	0.183	0.203
HIPPOCAMPUS ZOSTERAE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SYNGNATHUS FLORIDAE	0.750	0.163	0.000	0.000	0.000	0.188	0.630	0.000	1.282	0.557	1.915
SYNGNATHUS LOUISIANAE	0.285	0.000	0.000	0.000	0.000	0.457	0.585	0.000	1.235	0.000	0.730
SYNGNATHUS SCOVELLI	0.000	0.145	0.000	0.000	0.000	1.502	0.880	0.538	0.348	4.010	0.000
CHLOROSCOMBRUS CHRYSURUS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.172	0.000	0.000	0.000
OLIGOPLITES SAURUS	0.127	0.000	0.000	0.000	0.000	0.000	0.210	0.192	0.370	0.000	0.193
EUCINOSTOMUS SP.	0.000	0.292	0.000	0.000	0.000	0.175	0.160	0.000	0.177	0.000	0.000
FAMILY SCIAENIDAE	32.782	0.180	86.185	10.585	290.133	2.983	0.468	1208.98	39.517	154.067	302.255
BAIRDIELLA CHRYSOURA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.380
CYNOSCION ARENARIUS	0.527	0.000	0.000	0.000	0.000	0.000	0.000	0.592	0.000	0.000	0.170
CYNOSCION NEBULOSUS	1.402	0.145	0.000	0.000	0.188	1.108	0.418	15.463	27.047	12.995	17.258
MENTICIRRHUS SAXATILIS	0.000	0.000	0.000	0.000	0.218	0.000	0.000	0.825	0.180	0.202	0.185
MENTICIRRHUS SP.	2.290	0.000	0.000	0.000	0.378	0.710	0.418	9.778	2.157	1.632	3.165
CHAETODIPTERYGUS FABER	0.213	0.000	0.000	0.000	0.000	0.188	0.000	0.352	1.298	0.000	0.767
PARACLINUS FASCIATUS	0.000	0.000	0.000	0.180	0.190	0.000	2.043	0.000	0.385	0.000	0.558
FAMILY BLENIIDAE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.715	10.860	9.935
HYPSOBLENNIUS HENTZI	1.273	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.760	0.000	0.000
UNIDENTIFIED BLENNY	3.085	2.530	5.058	11.592	11.302	21.413	127.300	0.767	0.760	0.000	0.000
CALLIONYMUS PAUCIRADIATUS	0.467	0.000	0.000	0.000	0.188	0.000	0.208	1.430	0.860	0.715	0.513
FAMILY GOBIIDAE	20.825	1.925	46.150	0.192	0.188	9.692	0.495	0.000	37.783	4.133	0.000
BATHYGOBIOUS SOPORATOR	0.752	0.000	0.660	0.000	0.000	0.340	0.298	1.462	6.350	0.188	3.982
GOBIOSOMA ROBUSTUM	34.897	2.742	53.215	14.017	10.645	30.562	7.547	55.868	92.717	31.250	66.493
MICROGOBIOUS GULOSUS	2.835	2.965	3.247	4.065	3.145	39.103	31.558	0.000	0.000	0.377	0.170
PRIONOTUS SP.	0.130	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.555	1.737
FAMILY TRIGLIDAE/SOLEIDAE	7.300	0.202	5.858	0.407	0.000	0.398	0.258	14.867	2.087	3.250	17.283
ACHIRUS LINEATUS	6.715	1.130	4.390	5.047	2.718	5.360	5.653	7.020	20.505	6.100	8.978
SYMPHURUS PLAGIOSA	0.127	0.000	0.000	0.000	0.000	0.000	0.000	0.173	0.172	0.000	0.000
MONACANTHUS SP.	0.107	0.000	0.000	0.000	0.000	0.000	0.000	0.365	0.702	0.000	0.377
FAMILY OSTRACIIDAE	0.000	0.000	0.000	0.000	0.197	0.340	0.160	0.205	0.172	0.697	1.195



SPHOEROIDES SP.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.180	0.405	0.000
CHILOMYCTERUS SCHOEPI	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.170	0.000	0.000
UNIDENTIFIED	1.603	4.423	5.993	2.127	3.645	12.778	5.167	38.735	82.697	24.223	110.357
UNIDENTIFIED-DAMAGED	8.507	24.105	2.293	0.558	0.775	0.000	4.222	0.615	16.423	0.000	1.227
PENAEUS SP.	3.325	5.052	0.550	0.000	0.178	1.517	4.272	0.693	2.553	0.937	43.853
TRACHYPENAEUS SP.	0.535	0.000	0.000	0.000	0.000	0.568	0.165	5.507	0.510	0.000	0.000
CALLINECTES SP.	0.000	0.000	0.000	0.000	0.000	0.353	0.000	0.000	0.000	0.000	0.363
MENIPPE MERCENARIA	1270.98	10.323	210.362	370.940	339.200	361.038	860.743	2247.2	1004.71	73.553	2632.03
LOLLIGUNCULA BREVIS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.177	0.000	0.000

TOTAL OF AVERAGE DENSITIES 3863.41 258.265 764.653 1204.23 1999.53 878.075 2388.01 4792.38 3068.13 1630.4 6168.31

ENTRAINMENT  
DENSITY BY STATION

NUMBER PER 100 CUBIC METERS

SEPTEMBER 14, 1983

SPECIES NAME	A	B	C	D	E	F	G	H	I	J	K
FAMILY CLUPEIDAE	0.000	0.000	0.000	0.000	0.000	0.175	0.000	0.000	0.000	0.000	0.220
BREVOORTIA SP.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.207	0.000	0.000	0.000
HARENGULA JAGUANA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.232	0.000	0.000
OPHISTHONEMA OGLINUM	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.217	0.000	0.168	0.000
FAMILY ENGRAULIDAE	0.000	0.000	0.187	0.000	0.538	0.000	0.000	42.567	11.678	0.070	13.533
ANCHOA HEPSETUS	0.000	0.000	0.000	0.238	0.268	0.000	1.128	0.000	4.650	1.240	0.880
ANCHOA MITCHELLI	627.442	22.658	27.247	96.820	171.568	56.363	125.808	367.877	294.093	302.862	247.425
ANCHOA SP.	140.033	0.360	1.813	12.885	17.340	4.850	1.512	3.483	1.000	1.807	4.567
GOBIESOX STRUMOSUS	0.280	0.000	0.000	0.808	0.000	0.200	0.000	0.000	0.000	0.373	0.000
HYPOHAMPUS UNIFASCIATUS	1.142	0.000	0.187	1.065	1.053	0.000	0.280	0.000	0.543	1.225	0.220
MEMBRAS MARTINICA	0.000	0.180	0.000	0.000	0.268	0.000	0.172	0.000	0.000	0.245	0.000
MENIDIA SP.	0.000	0.000	0.000	0.232	0.000	0.000	0.000	0.000	0.000	0.000	0.000
HIPPOCAMPUS ERECTUS	1.282	0.000	0.000	0.000	0.538	0.175	0.000	1.083	1.937	0.168	0.000
HIPPOCAMPUS ZOSTERAE	0.000	0.000	0.000	0.000	0.270	0.175	0.390	0.000	0.000	0.000	0.000
MICROGNATHUS CRINIGER	0.000	0.000	0.000	0.000	0.000	0.175	0.000	0.000	0.000	0.158	0.208
SYNGNATHUS FLORIDAE	0.507	0.000	0.000	0.000	1.093	0.175	0.310	3.767	4.565	1.763	4.565
SYNGNATHUS LOUISIANAE	2.482	0.000	0.000	0.000	0.000	1.102	0.280	1.932	0.225	0.223	0.645
SYNGNATHUS SCOVELLI	0.000	0.000	0.000	0.000	0.222	0.000	0.900	1.308	1.118	0.452	1.380
RACHYCENTRON CANADUM	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.180	0.000	0.000
OLIGOPLETES SAURUS	0.000	0.000	0.000	0.303	0.000	0.000	0.197	0.000	0.338	0.000	0.000
EUCINDOSTOMUS SP.	0.000	0.455	0.000	0.000	0.000	0.000	0.197	0.000	0.232	0.000	0.000
FAMILY SCIAENIDAE	39.185	0.000	39.353	103.333	36.988	0.000	7.980	233.583	10.943	40.323	47.270
CYNOSCION NEBULOSUS	1.117	0.000	0.000	0.000	1.902	0.000	0.000	0.000	0.555	0.000	0.683
METICIRRHUS SP.	1.533	0.000	0.000	0.267	3.270	0.000	0.000	0.000	0.000	0.000	0.937
CHAETODIPTERUS FABER	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.235
PARACLINUS FASCIATUS	0.280	0.000	0.000	0.000	0.538	0.000	0.000	0.442	0.922	0.000	0.748
FAMILY BLENIIDAE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	12.670	11.160
UNIDENTIFIED BLENNY	27.525	4.435	0.000	7.537	19.343	1.460	2.025	2.378	6.087	0.505	0.000
CALLIONYMUS PAUCIRADIATUS	2.187	0.180	0.252	0.238	0.000	0.350	0.000	0.632	4.515	0.000	1.845
FAMILY GOBIIDAE	11.945	0.000	0.167	0.460	19.885	33.547	2.890	33.217	3.802	0.000	0.000
BATHYGOBIUS SOPORATOR	4.872	0.000	0.000	0.000	1.093	0.000	0.000	6.113	1.520	0.395	3.763
GOBIOSOMA ROBUSTUM	80.780	5.112	30.222	3.893	8.067	74.627	4.420	9.950	51.013	29.493	58.788
MICROGOBIUS GULOSUS	4.148	15.508	1.782	0.303	0.285	19.138	9.707	0.000	0.000	0.000	0.918
PRIONOTUS SP.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.070
FAMILY TRIGLIDAE/SOLEIDAE	8.533	0.000	0.627	0.238	5.517	0.677	2.083	3.465	2.845	11.083	3.517
ACHIRUS LINEATUS	0.887	0.275	0.462	2.852	8.140	1.127	0.000	2.238	1.753	3.133	2.807
SYMPHURUS PLAGIOSA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MONACANTHUS CILIATUS	0.512	0.000	0.000	0.000	0.268	0.200	0.310	0.207	0.232	0.000	0.187
MONACANTHUS SP.	0.000	0.000	0.000	0.000	0.840	0.000	0.000	0.000	0.000	0.000	0.375
FAMILY OSTRACIIDAE	0.280	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SPHEROIDES SP.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.217	0.000	0.000	0.000
CHILOMYCTERUS SCHOEPII	3.138	0.000	0.738	0.238	2.000	1.008	1.368	26.998	29.008	13.968	11.330
UNIDENTIFIED	5.393	0.000	0.167	0.505	3.807	0.378	0.930	0.640	0.180	1.100	0.615
PENAEUS SP.	0.655	6.270	4.735	5.353	11.672	0.000	26.165	1.093	0.000	1.332	1.388
TRACHYPENAEUS SP.	0.315	0.882	0.000	0.000	0.000	0.200	0.280	0.217	0.225	0.000	0.000

CALLINECTES SP.	0.000	1.578	1.042	0.238	3.465	1.383	0.788	0.808	0.225	0.395	0.440
MENIPPE MERCENARIA	2117.35	25.310	30.128	451.633	562.722	420.768	168.097	4239.12	1904.5	114.705	3584.77
LOLLIGUNCULA BREVIS	0.000	0.000	0.252	0.000	0.000	0.000	0.280	0.000	0.000	0.000	1.358
TOTAL OF AVERAGE DENSITIES	3083.8	83.677	139.358	689.673	879.962	618.427	358.497	4983.75	2339.12	539.788	4008.84

## ENTRAINMENT

## DENSITY BY STATION

NUMBER PER 100 CUBIC METERS

SEPTEMBER 27, 1983

SPECIES NAME	A	B	C	D	E	F	G	H	I	J	K
CLUPEID	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.523	0.000	0.000	0.000
BREVOORTIA SP.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.925	0.645	0.000	0.000
FAMILY ENGRAULIDAE	0.297	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.315	0.000
ANCHOA HEPSETUS	0.000	0.000	0.000	0.000	0.000	0.513	0.250	0.000	0.000	7.465	8.725
ANCHOA MITCHILLI	2.083	137.517	52.108	8.488	7.473	23.990	32.677	12.133	118.045	17.368	19.133
ANCHOA SP.	1.310	7.198	62.427	4.720	5.278	17.267	15.580	0.217	0.323	46.910	41.907
GOBIESOX STRUMOSUS	0.000	0.230	0.228	0.482	0.468	0.257	0.167	0.000	0.307	0.000	0.760
HIPPOCAMPUS ERECTUS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.245	0.303	0.203	0.000
HIPPOCAMPUS ZOSTERAE	0.000	0.000	0.000	0.000	0.228	0.000	0.000	0.000	0.000	0.000	0.000
MICROGNATHUS CRINIGER	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.315	0.000
SYNGNATHUS FLORIDAE	0.000	0.230	0.000	0.302	1.370	0.237	2.625	0.643	1.617	5.082	1.433
SYNGNATHUS LOUISIANAE	0.000	0.000	0.267	0.000	0.000	0.000	0.000	0.245	1.402	0.000	0.000
SYNGNATHUS SCOVELLI	0.000	0.000	0.000	0.000	0.000	0.000	2.707	0.247	0.000	0.000	1.908
CHLOROSCOMBRUS CHRYSURUS	0.000	0.000	0.000	0.000	0.000	0.000	0.083	0.000	0.000	0.000	0.000
FAMILY SCIAENIDAE	2.430	0.000	0.000	0.000	0.000	0.000	0.365	3.153	1.740	0.000	3.823
CYNOSCION NEBULOSUS	0.000	0.000	0.000	0.282	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MENTICIRRHUS SAXATILIS	0.000	0.000	0.257	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FAMILY BLENIIDAE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.468	0.768
UNIDENTIFIED BLENNY	0.225	0.965	0.743	0.000	1.662	0.750	3.115	0.000	0.630	3.128	0.990
CALLIONYMUS PAUCIRADIATUS	0.000	0.000	0.223	0.000	0.000	0.000	0.000	0.247	0.000	0.000	0.203
FAMILY GOBIIDAE	0.000	3.995	0.000	0.302	0.235	3.082	0.332	0.495	4.400	16.880	0.247
BATHYGObIUS SOPORATOR	0.000	0.248	0.712	0.000	0.228	0.000	0.000	0.000	0.307	1.663	1.617
GOBIOSOMA ROBUSTUM	1.555	5.088	24.687	2.768	4.618	9.733	14.587	1.793	1.362	57.835	63.792
MICROGOBIUS GULOSUS	0.000	3.953	3.638	0.000	0.000	3.978	1.883	0.000	0.000	0.000	0.443
PRIONOTUS SP.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FAMILY TRIGLIDAE/SOLEIDAE	0.297	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ACHIRUS LINEATUS	0.893	0.000	0.745	0.533	0.240	0.630	0.083	1.887	2.490	1.247	0.585
MONACANTHUS SP.	0.000	0.000	0.000	0.000	0.000	0.000	0.365	0.000	0.000	0.000	0.000
SPHOEROIDES SP.	0.000	0.000	0.000	0.000	0.000	0.000	0.332	0.000	0.215	0.000	0.000
UNIDENTIFIED	0.297	0.000	0.000	0.000	0.480	0.317	1.428	7.155	14.082	2.625	4.960
UNIDENTIFIED-DAMAGED	0.000	0.000	0.000	0.000	0.292	0.313	0.332	2.783	1.823	1.367	1.203
PENAEUS SP.	0.000	0.488	0.000	0.000	0.000	0.000	0.167	0.000	0.000	0.203	0.000
TRACHYPENAEUS SP.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.203	0.000
CALLINECTES SP.	0.225	2.023	2.693	9.063	13.683	2.480	0.998	0.247	1.507	5.367	0.495
MENIPPE MERCENARIA	122.467	13.445	113.283	145.613	240.165	49.220	287.958	63.105	535.640	504.087	2398.63
LOLLIGUNCULA BREVIS	0.000	0.000	0.258	0.000	0.000	0.000	0.083	0.000	0.215	0.000	0.000

TOTAL OF AVERAGE DENSITIES

132.078 175.382 262.270 172.553 276.422 118.767 366.117 98.043 687.052 672.132 2551.62

ENTRAINMENT  
DENSITY BY STATION  
NUMBER PER 100 CUBIC METERS  
OCTOBER 12, 1983

SPECIES NAME	A	B	C	D	E	F	G	H	I	J	K
FAMILY CLUPEIDAE	0.000	0.000	0.000	0.000	0.000	0.000	1.430	0.000	0.000	0.000	0.000
CLUPEID	33.317	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ANCHOA HEPSETUS	0.847	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ANCHOA MITCHILLI	3.723	26.723	2.497	1.395	2.210	2.145	16.593	0.000	0.523	8.700	0.655
ANCHOA SP.	0.000	0.000	0.283	0.325	0.000	0.000	0.572	0.000	0.000	0.000	0.507
GOBIESOX STRUMOSUS	0.665	0.000	0.297	0.000	0.382	0.258	0.303	0.000	0.353	0.587	0.000
HYPORHAMPUS UNIFASCIATUS	0.000	0.000	0.000	0.000	0.000	0.297	0.303	0.670	0.000	0.000	0.000
FAMILY CYPRINODONTIDAE	0.000	0.000	0.262	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
HIPPOCAMPUS ERECTUS	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.000	0.000	0.000	0.000
MICROGNATHUS CRINIGER	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.325	0.858	0.000	0.235
SYNGNATHUS FLORIDAE	0.000	0.000	0.910	0.000	0.000	0.500	1.767	0.000	2.440	1.645	2.067
SYNGNATHUS LOUISIANAE	0.000	0.000	0.000	0.325	0.000	0.260	0.303	0.345	0.000	0.000	0.000
SYNGNATHUS SCOVELLI	0.000	0.000	0.000	0.000	0.000	0.000	3.967	0.000	0.000	0.000	0.000
CENTROPOMUS STRIATA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.243	0.000
CHLOROSCOMBRUS CHRYSURUS	0.303	0.000	0.000	0.258	0.000	0.000	0.327	0.000	0.315	0.000	0.000
EUCINOSTOMUS SP.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.137	0.490
LAGODON RHOMBOIDES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.502	0.000
FAMILY SCIAENIDAE	0.703	0.000	1.508	0.000	0.000	0.000	0.000	0.315	0.375	0.297	0.000
MENTICIRRHUS SP.	0.000	0.000	0.000	0.000	0.000	0.000	0.303	0.000	0.000	0.000	0.000
SCIAENOPS OCELLATUS	0.000	0.000	0.283	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MUGIL SP.	0.195	0.000	0.000	0.000	0.000	0.000	0.303	0.000	0.000	0.000	0.000
FAMILY BLENIIIDAE	0.000	0.000	1.015	0.580	0.420	0.245	0.000	0.000	0.262	0.277	0.537
UNIDENTIFIED BLENNY	0.337	0.325	0.283	0.000	0.000	0.260	1.748	0.000	0.185	0.502	0.000
FAMILY GOBIIDAE	0.000	0.272	0.000	0.000	0.000	1.150	0.000	0.345	1.413	2.667	1.463
BATHYGobiUS SOPORATOR	0.000	0.000	1.447	0.000	0.000	0.297	0.572	0.000	0.000	0.000	0.218
GobiOSOMA ROBUSTUM	0.000	0.000	3.547	0.000	0.357	0.557	0.607	0.000	1.510	4.810	6.107
MICROGOBIUS GULOSUS	0.000	0.000	0.312	0.000	0.000	0.000	0.303	0.000	0.000	0.502	0.000
PRIONOTUS SP.	0.000	0.000	0.000	0.000	0.000	0.260	0.000	0.000	0.000	0.000	0.000
UNIDENTIFIED	1.615	0.000	0.000	0.000	0.000	0.000	0.290	1.577	0.282	0.000	0.507
UNIDENTIFIED-DAMAGED	0.000	0.000	0.000	0.000	0.000	0.515	0.612	0.637	0.000	0.000	0.705
PENAEUS SP.	0.000	0.000	0.000	0.000	0.000	0.000	0.842	0.000	0.000	0.775	0.000
CALLINECTES SP.	0.477	2.717	0.313	0.613	6.665	1.538	6.433	8.087	0.185	15.467	3.905
MENIPPE MERCENARIA	35.853	3.490	9.860	8.777	5.607	3.375	95.345	14.087	8.623	1.318	46.280
TOTAL OF AVERAGE DENSITIES	78.035	33.527	22.847	12.303	15.640	11.657	133.192	28.398	17.325	39.427	63.675



ENTRAINMENT  
DENSITY BY STATION  
NUMBER PER 100 CUBIC METERS  
OCTOBER 25, 1983

SPECIES NAME	A	B	C	D	E	F	G	H	I	J	K
FAMILY CLUPEIDAE	0.000	0.000	0.000	0.287	0.000	0.510	0.298	0.000	1.192	0.000	0.000
CLUPEID	0.000	0.000	0.000	0.000	0.000	0.702	139.965	64.167	110.695	0.000	31.400
BREVOORTIA SP.	0.000	0.000	0.000	0.000	0.200	0.000	0.000	0.000	0.000	0.000	0.000
HARENGULA JAGUANA	0.000	0.000	0.358	0.000	2.230	0.000	0.000	0.000	0.000	0.322	0.000
OPHIOTHONEMA OGLINUM	0.000	0.000	0.000	0.673	0.462	0.355	0.000	0.000	0.268	0.317	0.000
ANCHOA MITCHILLI	0.000	45.113	2.345	2.802	0.300	1.938	5.418	0.000	0.000	0.000	0.000
ANCHOA SP.	0.000	0.000	0.000	0.287	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GOBIESOX STRUMOSUS	3.022	0.288	0.000	0.623	1.422	1.822	1.142	2.748	1.062	4.973	1.050
HIPPOCAMPUS ERECTUS	0.773	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MICROGNATHUS CRINIGER	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.230	0.000	0.253
SYNGNATHUS FLORIDAE	0.308	0.000	0.000	0.000	0.000	0.975	0.000	0.345	5.302	1.642	1.087
SYNGNATHUS LOUISIANAE	0.000	0.000	0.000	0.000	0.000	0.000	0.310	0.000	0.000	0.000	0.000
SYNGNATHUS SCOVELLI	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.195	0.000	0.000
EUCINOSTOMUS SP.	0.000	0.320	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FAMILY SCAENIDAE	0.000	0.000	0.000	0.000	0.000	0.000	0.310	0.000	0.000	0.000	0.000
MENTICIRRHUS SP.	0.000	0.000	0.290	0.000	0.427	0.000	0.000	0.000	0.000	0.000	0.000
PARACLINUS FASCIATUS	0.000	0.000	0.000	0.000	0.000	0.578	0.000	0.000	0.000	0.000	0.000
FAMILY BLENNIIDAE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.322	0.000
UNIDENTIFIED BLENNY	0.437	0.000	0.343	0.000	1.790	0.218	0.000	0.000	0.000	0.000	0.000
BATHYGOBIOUS SOPORATOR	0.000	0.000	0.363	0.320	0.427	0.000	0.310	0.380	0.000	0.000	0.000
GOBIOSOMA ROBUSTUM	0.000	0.000	0.697	0.000	0.000	0.473	0.620	0.505	0.195	0.260	0.000
MICROGOBIOUS GULDSUS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.195	0.000	0.000
UNIDENTIFIED	0.000	0.000	0.000	0.000	0.000	0.000	65.300	0.000	14.560	0.000	0.000
UNIDENTIFIED-DAMAGED	0.000	0.000	0.000	0.000	0.000	0.000	0.298	0.000	0.268	0.283	0.000
PENAEUS SP.	0.000	0.875	0.000	0.000	0.000	0.000	0.378	0.000	0.000	0.000	0.000
TRACHYPENAEUS SP.	0.000	0.000	0.000	0.000	0.000	0.000	1.135	0.000	0.000	0.000	0.000
CALLINECTES SP.	0.387	0.000	0.000	0.267	0.300	0.672	0.378	0.000	0.328	0.000	0.507
MENIPPE MERCENARIA	12.663	0.918	0.290	1.673	1.135	0.447	0.378	3.002	1.803	0.000	7.717
LOLLIGUNCULA BREVIS	0.498	0.277	0.000	0.000	0.000	0.255	0.425	0.255	0.000	0.000	0.000
TOTAL OF AVERAGE DENSITIES	18.088	47.792	4.687	6.932	8.692	8.945	216.667	71.402	136.293	8.118	42.013



## ENTRAINMENT

## DENSITY BY STATION

NUMBER PER 100 CUBIC METERS

JULY 21, 1983

SPECIES NAME	STATION			
	L	M	N	P
OPHIOTHONEMA OGLINUM	5.987	0.447	0.000	0.000
ANCHOA HEPSETUS	55.180	0.580	0.000	0.370
ANCHOA MITCHILLI	112.042	9.550	0.763	12.957
ANCHOA SP.	19.493	2.268	0.000	1.803
CYPRINODON VARIEGATUS	0.000	0.000	0.000	0.542
LUCANIA PARVA	0.000	1.047	0.000	0.000
SYNGNATHUS SCOVELLI	0.000	0.000	0.000	0.702
OLIGOLITES SAURUS	0.000	0.893	0.000	0.000
EUCINOSTOMUS SP.	0.498	0.000	1.127	0.000
FAMILY SCIAENIDAE	0.000	0.603	0.000	0.000
CYNOSCION ARENARIUS	0.000	0.000	0.000	0.292
CYNOSCION NEBULOSUS	0.908	4.990	0.000	4.512
METICIRRHUS SP.	0.367	0.000	0.000	0.000
UNIDENTIFIED BLENNY	2.235	0.000	2.467	36.067
BATHYGObIUS SOPORATOR	0.463	0.000	0.000	1.688
GObIOSOMA ROBUSTUM	48.560	172.225	92.600	61.833
MICROGObIUS GULOSUS	5.358	20.300	0.763	6.450
ACHIRUS LINEATUS	4.353	1.963	3.983	3.577
UNIDENTIFIED	0.367	0.000	0.422	0.000
UNIDENTIFIED-DAMAGED	0.367	3.295	0.000	0.000
PENAEUS SP.	34.132	0.000	0.000	0.000
CALLINECTES SP.	0.000	0.000	0.763	0.000
MENIPPE MERCENARIA	147.490	0.000	0.000	0.000
TOTAL OF AVERAGE DENSITIES	437.800	218.162	102.888	130.792

## ENTRAINMENT

## DENSITY BY STATION

NUMBER PER 100 CUBIC METERS

AUGUST 1, 1983

SPECIES NAME	STATION			
	L	M	N	P
FAMILY ENGRAULIDAE	0.000	0.000	0.500	0.000
ANCHOA HEPSETUS	5.592	3.603	0.000	1.787
ANCHOA MITCHILLI	33.272	18.538	0.000	12.427
ANCHOA SP.	6.255	6.290	2.633	0.527
OPSANUS BETA	0.000	0.328	0.000	0.000
CYPRINODON VARIEGATUS	0.000	0.000	2.827	1.062
LUCANIA PARVA	0.000	5.275	0.000	3.215
MEMBRAS MARTINICA	0.000	0.430	0.000	0.000
SYNGNATHUS SCOVELLI	0.000	3.490	0.000	5.788
OLIGOPLITES SAURUS	0.000	0.430	0.000	0.000
EUCINOSTOMUS SP.	0.000	0.888	0.000	0.000
FAMILY SCIAENIDAE	0.000	0.000	0.500	0.000
BAIRDIELLA CHRYSOURA	0.505	0.000	0.000	0.000
CYNOSCION ARENARIUS	0.000	0.430	0.000	1.098
CYNOSCION NEBULOSUS	0.488	0.860	0.000	2.933
MENTICIRRHUS SP.	0.000	0.000	0.000	1.053
UNIDENTIFIED BLENNY	0.488	16.630	2.615	1.443
FAMILY GOBIIDAE	0.000	11.695	0.000	0.000
BATHYGobiUS SOPORATOR	0.000	0.450	0.000	0.343
GOBIOSOMA ROBUSTUM	42.683	262.008	53.405	150.645
MICROGOBIUS GULOSUS	12.573	68.883	0.808	9.150
ACHIRUS LINEATUS	2.363	3.265	0.000	0.400
UNIDENTIFIED	0.000	0.000	1.000	0.000
UNIDENTIFIED-DAMAGED	0.000	1.107	0.500	1.098
PENAEUS SP.	1.438	0.430	0.000	3.215
CALLINectes SP.	0.000	0.657	2.018	0.000
MENIPPE MERCENARIA	61.255	0.000	0.000	0.000
TOTAL OF AVERAGE DENSITIES	166.913	405.688	66.807	196.185

## ENTRAINMENT

## DENSITY BY STATION

NUMBER PER 100 CUBIC METERS

AUGUST 15, 1983

SPECIES NAME	STATION			
	L	M	N	P
MYROPHIS PUNCTATUS	0.343	0.000	0.000	0.000
ANCHOA HEPSETUS	0.000	1.825	0.000	0.000
ANCHOA MITCHILLI	116.945	4.330	0.490	1.183
ANCHOA SP.	0.307	1.245	0.000	0.000
CYPRINODON VARIEGATUS	0.000	0.000	0.000	1.933
HIPPOCAMPUS ZOSTERAE	0.000	0.818	0.000	0.000
SYNGNATHUS SCOVELLI	0.000	0.853	0.780	2.615
EUCINOSTOMUS ARGENTEUS	0.000	0.000	3.040	0.000
CYNOSCION ARENARIUS	0.343	0.000	0.000	0.000
CYNOSCION NEBULOSUS	0.000	0.540	0.518	0.327
PARACLINUS FASCIATUS	0.000	0.000	0.490	0.000
FAMILY BLENNIIDAE	0.000	1.712	1.550	4.580
FAMILY GOBIIDAE	0.000	0.000	0.000	4.650
BATHYGOBIUS SOPORATOR	0.000	0.000	0.812	0.000
GOBIOSOMA ROBUSTUM	11.502	31.902	11.005	50.150
MICROGOBIUS GULOSUS	20.222	1.245	3.400	0.390
ACHIRUS LINEATUS	0.688	0.313	0.483	1.580
SYMPHURUS PLAGIUSA	0.350	0.000	0.000	0.000
PENAEUS SP.	32.698	3.340	22.772	14.073
TRACHYPENAEUS SP.	0.350	0.000	0.000	0.000
MENIPPE MERCENARIA	0.907	0.540	0.000	0.000
TOTAL OF AVERAGE DENSITIES	184.655	48.663	45.340	81.482

## ENTRAINMENT

## DENSITY BY STATION

## NUMBER PER 100 CUBIC METERS

AUGUST 31, 1983

SPECIES NAME	STATION			
	L	M	N	P
ANCHOA MITCHILLI	8.490	2.735	0.000	0.000
ANCHOA SP.	0.000	1.177	0.497	0.000
HYPORHAMPHUS UNIFASCIATUS	0.000	0.417	0.000	0.000
CYPRINODON VARIEGATUS	0.000	0.000	1.822	0.000
LUCANIA PARVA	0.000	0.322	0.000	1.897
HIPPOCAMPUS ZOSTERAE	0.000	0.597	0.000	0.000
SYNGNATHUS FLORIDAE	0.000	0.000	0.000	0.585
SYNGNATHUS SCOVELLI	0.000	0.605	0.000	0.393
CHLOROSCOMBRUS CHRYSURUS	0.468	0.000	0.000	0.000
EUCINOSTOMUS SP.	0.000	1.842	6.195	36.700
CYNOSCION NEBULOSUS	0.422	0.605	0.000	0.000
FAMILY BLENNIIDAE	1.300	2.725	15.532	9.997
BATHYGOBIOUS SOPORATOR	0.000	0.000	0.523	0.000
GOBIOSOMA ROBUSTUM	13.595	46.467	6.248	23.050
MICROGOBIOUS GULOSUS	3.262	9.883	9.130	2.098
ACHIRUS LINEATUS	0.000	1.065	0.922	1.892
UNIDENTIFIED	0.000	0.643	0.000	0.000
UNIDENTIFIED-DAMAGED	0.422	0.000	0.000	0.393
PENAEUS SP.	0.958	0.000	0.000	0.000
CALLINECTES SP.	0.000	0.000	2.383	1.767
MENIPPE MERCENARIA	0.422	0.000	0.408	0.000
TOTAL OF AVERAGE DENSITIES	29.338	69.082	43.660	78.772

## ENTRAINMENT

## DENSITY BY STATION

NUMBER PER 100 CUBIC METERS

SEPTEMBER 14, 1983

SPECIES NAME	L	M	STATION N	P
ANCHOA HEPSETUS	0.000	0.000	0.522	0.267
ANCHOA MITCHILLI	34.112	13.342	0.000	2.935
ANCHOA SP.	0.385	0.000	0.000	0.000
CYPRINODON VARIEGATUS	0.000	0.000	1.228	0.000
LUCANIA PARVA	0.000	0.352	0.000	0.000
FAMILY SYNGNATHIDAE	0.000	0.000	0.312	0.000
SYNGNATHUS FLORIDAE	0.000	0.497	0.000	1.238
SYNGNATHUS SCOVELLI	0.000	1.923	3.765	8.087
EUCINOSTOMUS SP.	0.000	0.000	25.717	34.047
FAMILY BLENNIIDAE	0.895	7.265	0.732	3.368
UNIDENTIFIED BLENNY	0.000	0.000	1.255	0.000
FAMILY GOBIIDAE	0.000	0.000	0.357	0.000
BATHYGOBIUS SOPORATOR	0.872	0.000	0.792	0.267
GOBIOSOMA ROBUSTUM	0.812	60.148	38.867	65.650
MICROGOBIUS GULOSUS	1.332	2.753	3.073	9.635
ACHIRUS LINEATUS	0.435	0.000	1.542	0.398
UNIDENTIFIED-DAMAGED	0.435	0.408	0.000	0.000
PENAEUS SP.	17.800	1.585	10.667	25.737
CALLINECTES SP.	0.820	0.738	5.693	16.850
MENIPPE MERCENARIA	0.435	1.057	1.565	0.798
TOTAL OF AVERAGE DENSITIES	58.332	90.068	96.085	169.277

## ENTRAINMENT

## DENSITY BY STATION

## NUMBER PER 100 CUBIC METERS

SEPTEMBER 27, 1983

SPECIES NAME	STATION			
	L	M	N	P
ANCHOA HEPSETUS	0.700	0.382	0.000	0.000
ANCHOA MITCHILLI	180.223	6.300	12.672	10.583
ANCHOA SP.	0.758	0.000	0.000	0.000
GOBIESOX STRUMOSUS	0.350	0.965	0.000	0.000
CYPRINODON VARIEGATUS	0.000	0.000	1.110	0.000
MEMBRAS MARTINICA	0.000	0.538	0.635	0.000
SYNGNATHUS SCOVELLI	0.000	1.818	2.112	0.332
EUCINOSTOMUS SP.	0.348	0.000	0.737	0.968
CYNOSCION NEBULOSUS	0.000	0.538	0.000	0.000
MENTICIRRHUS SP.	0.350	0.000	0.000	0.000
FAMILY BLENNIIDAE	0.350	1.683	0.402	0.322
BATHYGobiUS SOPORATOR	0.348	0.000	0.402	0.835
GOBIOSOMA ROBUSTUM	8.318	7.738	19.717	15.517
MICROGobiUS GULOSUS	9.450	1.035	0.535	0.000
UNIDENTIFIED BOTHID	0.000	0.000	0.267	0.000
ACHIRUS LINEATUS	0.348	0.000	0.000	2.820
PENAEUS SP.	1.052	0.538	1.170	0.425
CALLINECTES SP.	4.547	6.450	40.778	136.500
MENIPPE MERCENARIA	0.697	0.448	0.000	0.787
TOTAL OF AVERAGE DENSITIES	207.840	28.435	80.535	169.088



## ENTRAINMENT

## DENSITY BY STATION

NUMBER PER 100 CUBIC METERS

OCTOBER 12, 1983

SPECIES NAME	STATION			
	L	M	N	P
ANCHOA MITCHILLI	35.577	16.097	20.895	35.117
GOBIESOX STRUMOSUS	0.000	1.173	0.000	0.000
MEMBRAS MARTINICA	0.000	0.000	0.495	0.000
SYNGNATHUS FLORIDAE	0.000	0.658	0.000	0.000
SYNGNATHUS SCOVELLI	0.000	2.323	2.870	2.588
EUCINOSTOMUS SP.	0.313	2.852	20.227	11.433
CYNOSCION NEBULOSUS	0.000	0.000	0.452	0.000
SCIAENOPS OCELLATUS	0.000	0.000	2.892	1.353
FAMILY BLENNIIDAE	0.368	0.000	0.000	0.477
BATHYGobiUS SOPORATOR	0.000	0.000	0.462	0.000
GobiOSOMA ROBUSTUM	1.487	31.952	29.578	16.982
MICROGobiUS GULOSUS	2.228	4.167	3.328	0.965
ACHIRUS LINEATUS	0.000	0.000	0.922	0.000
SYMPHURUS PLAGIUSA	0.000	0.000	0.000	0.447
PENAEUS SP.	3.147	3.368	14.983	31.333
TRACHYPENAEUS SP.	0.000	0.000	0.000	0.447
CALLINECTES SP.	2.032	9.997	78.800	45.100
TOTAL OF AVERAGE DENSITIES	45.152	72.587	175.903	146.242

ENTRAINMENT  
DENSITY BY STATION  
NUMBER PER 100 CUBIC METERS

OCTOBER 25, 1983

SPECIES NAME	STATION			
	L	M	N	P
CLUPEID	10.342	0.000	0.000	0.000
ANCHOA MITCHILLI	12.762	0.000	1.083	1.195
GOBIESOX STRUMOSUS	0.365	0.525	0.000	0.000
LUCANIA PARVA	0.000	1.222	0.000	0.000
SYNGNATHUS SCOVELLI	0.000	2.327	0.607	0.310
SCIAENOPS OCELLATUS	0.000	0.000	0.000	0.522
FAMILY BLENNIIDAE	0.000	1.108	0.000	0.000
GOBIOSOMA ROBUSTUM	0.000	1.052	0.000	0.635
MICROGOBIOUS GULOSUS	0.000	0.525	0.270	0.627
UNIDENTIFIED	0.458	0.000	0.000	0.000
PENAEUS SP.	0.000	0.397	0.000	0.000
CALLINECTES SP.	0.458	0.397	0.303	0.000
MENIPPE MERCENARIA	0.365	0.000	0.270	0.000
	0.000	0.583	0.000	0.000
TOTAL OF AVERAGE DENSITIES	24.750	8.135	2.533	3.288

#### 4.4 FISHERIES

FISHERIES SAMPLING COLLECTIONS  
TOTAL NUMBER COLLECTED OVER ALL REPS FOR  
TRAWL

SPECIES NAME	DECEMBER 1983										STATION								
	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14	T15	T16	T17	T18	T19
ANCHOA MITCHELLI	0	1	0	2	0	0		4	0								1	4	0
SYNGNATHUS FOETENS	0	0	2	0	0	1		0	0							4	0	0	0
ARIUS FELIS	0	0	0	0	3	0		0	0							1	0	0	0
OPSANUS BETA	0	0	0	0	0	0		0	0							0	0	0	0
OGCOCEPHALUS RADIATUS	0	0	0	0	2	1		0	0							0	0	3	0
SYNGNATHUS LOUISIANAE	0	0	0	0	0	0		0	0							0	0	0	0
EUCINOSTOMUS ARGENTEUS	0	0	0	0	0	0		0	0							0	0	0	2
EUCINOSTOMUS GULA	29	30	3	152	22	1		1	0							1	1	6	0
ORTHOPRISTIS CHRYSOPTERA	0	1	0	0	0	5		0	0							5	0	4	2
CALAMUS ARCTIFRONS	0	0	0	0	0	0		0	0							0	0	0	2
LAGOON RHOMBODES	6	10	0	1	5	0		0	0							0	0	0	0
BAIRDIELLA CHRYSOURA	26	17	0	8	9	0		0	0							0	2	32	2
CYNOSCION ARENARIUS	1	2	0	0	0	1		0	0							4	0	18	0
LEIOSTOMUS XANTHURUS	11	27	9	3	9	4		0	0							1	0	0	0
MENTICIRRHUS AMERICANUS	1	2	1	0	3	2		0	0							2	0	0	0
CHAETODIPTERUS FABER	0	0	0	0	0	1		0	0							1	0	0	4
PRIONOTUS SCITULUS	0	0	0	0	0	3		0	0							0	0	0	0
ETROPUS CROSSOTUS	0	21	1	0	2	0		0	0							0	0	0	0
PARALICHTHYS ALBIGUTTA	0	0	0	0	0	0		0	0							0	0	0	0
SYMPHURUS PLAGIOSA	0	1	1	0	1	0		0	0							1	0	0	1
MONACANTHUS CILIATUS	0	0	0	0	0	0		0	0							0	0	3	0
MONACANTHUS HISPIDUS	0	0	0	0	0	0		0	0							0	0	0	2
LACTOPHRYS QUADRICORNIS	0	0	0	0	0	0		0	0							0	0	2	0
CHILOMYCTERUS SCHOEPI	0	0	0	0	1	0		0	0							0	0	0	0
TOTAL NUMBER OF FISH	74	112	17	169	58	24		12	16							24	12	72	16
SQUILLA EMPUSIA	0	6	1	0	2	1		0	0							1	0	0	0
PENAEUS DUORARUM	12	10	4	2	5	2		2	26							2	1	16	26
TRACHYPENAEUS SIMILIS	0	0	1	2	0	19		0	29							0	2	0	0
PALAEON FLORIDANUS	9	0	0	0	0	0		0	0							0	0	0	0
PALAEONETES INTERMEDIUS	5	0	0	0	1	0		0	0							0	0	0	0
PALAEONETES VULGARIS	5	0	0	0	0	0		0	0							0	0	0	0
ALPHEUS HETEROCHAEILIS	0	0	0	0	0	0		0	0							0	1	1	0
HIPPOLYSMATA MUROMANNI	0	0	0	0	1	0		0	1							0	1	2	1
TOZEUMA CAROLINENSE	0	0	0	0	0	0		0	0							0	0	0	1
PETROLISTHES ARMATUS	0	0	0	0	0	0		0	0							0	0	0	0
PAGURUS LONGICARPUS	0	0	0	0	0	1		0	0							1	0	0	0
HEPATUS EPHELITICUS	0	0	0	0	0	1		0	0							1	0	0	0
CALLINectes SAPIDUS	0	2	0	0	0	0		0	1							6	2	1	6
FORTUNUS GIBBESI	0	0	5	0	5	0		0	0							0	0	0	0
XANTHIDAE	0	0	0	0	0	0		0	0							0	0	2	0
NEOPANDOE TEXANA	0	0	0	0	1	0		0	0							0	1	2	0
PANDOEUS SP.	0	0	0	0	0	0		0	0							0	0	2	0
LIBINIA DUBIA	0	0	0	0	0	0		0	0							0	0	2	0
METOPORHAPHIS CALCARATA	0	0	0	0	5	2		0	11							2	4	27	0
UROSALPINX SP.	0	0	2	0	0	0		0	0							0	0	0	0
ECHINASTER SP.	0	0	0	0	0	0		0	0							0	0	1	0
OPHIOLEPIS ELEGANS	0	0	0	0	0	1		0	0							1	0	0	0
TOTAL NUMBER OF INVERTEBRATES	31	18	13	4	25	33		13	56							33	13	56	76

FISHERIES SAMPLING COLLECTIONS  
TOTAL NUMBER COLLECTED OVER ALL REPS FOR  
TRAWL

SPECIES NAME	JANUARY 1984										STATION		T4	T5	T6	T7	T8	T9
	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10								
DASYATIS SABINA	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
ANCHOA MITCHELLI	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OPSANUS BETA	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OGCOCEPHALUS RADIATUS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UROPHYCIS FLORIDANA	3	8	4	2	5	3	0	0	0	0	0	0	0	0	0	0	0	0
HIPPOCAMPUS ERECTUS	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SYNGNATHUS FLORIDAE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SYNGNATHUS SCOVELLI	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SERRANUS ATRORHYNCHUS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EUCINOSTOMUS GULA	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EUCINOSTOMUS SP.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LAGODON RHOMBOIDES	2	10	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BAIRDIELLA CHRYSOURA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CYNOSCION NEBULOSUS	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PRIONOTUS SCITULUS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PRIONOTUS TRIBULUS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ETROPUS CROSSOTUS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARALICHTHYS ALBIGUTTA	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SYMPHURUS PLAGIOSA	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MONACANTHUS CILIATUS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL NUMBER OF FISH	8	25	7	15	8	6	17	16	19	19	15	17	16	19	16	17	18	19
ANNELIDA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SQUILLA EMPUSIA	3	4	13	1	2	3	0	1	0	0	0	0	1	0	0	0	0	0
PENAEUS DUORARUM	14	6	2	2	0	0	1	0	0	0	0	12	12	9	0	1	0	0
TRACHYPENAEUS SIMILIS	0	0	1	0	0	0	0	0	0	0	0	1	5	40	0	0	0	0
PALAEON FLORIDANUS	1	25	2	0	0	1	0	0	0	0	0	7	9	4	0	0	0	0
PALAEONETES INTERMEDIUS	10	9	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
PALAEONETES VULGARIS	11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PERICLIMENES AMERICANUS	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
PERICLIMENES LONGICAUDATUS	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0
ALPHEUS HETEROCHEALIS	2	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0
ALPHEUS NORMANNI	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
ALPHEUS ZOSTERICOLA	0	0	0	0	0	0	0	0	0	0	0	3	1	1	0	0	0	0
THOR DOBKINI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOZEUMA CAROLINENSE	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	81	0
AMBIDEXTER SYMMETRICUS	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0
PETROLISTHES ARMATUS	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	1	0	0
PAGURUS GYMNOCTACTUS	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PAGURUS LONGICARPUS	0	5	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
PAGURUS POLLICARIS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HEPATUS EPHELETTICUS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CALLINectes SAPIIDUS	3	3	3	1	2	1	0	0	0	0	0	0	1	1	1	1	1	1
PORTUNUS GIBBESII	0	2	3	0	7	8	0	0	0	0	0	12	5	6	3	0	0	0
NEOPANDORA TEXANA	0	9	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
PILUMNUS SAYI	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	20	0
PODOCHELA RIISEI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LIBINIA DUBIA	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LIBINIA EMARGINATA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
METOPORAPHIS CALCARATA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EPIALTIUS DILATATUS	0	1	0	0	0	1	0	0	0	0	0	22	17	54	1	0	0	1

ARGOPECTEN GIBBUS  
 ECHINASTER SP  
 OPHIOLEPIS ELEGANS

TOTAL NUMBER OF INVERTEBRATES

0	0	0	0	0	0	0	0	0	0	5	1	0
0	0	0	0	0	0	0	0	0	0	1	0	2
0	0	0	0	0	0	0	0	2	1	0	0	0
45	73	28	4	17	22	83	99	234				







FISHERIES SAMPLING COLLECTIONS  
TOTAL NUMBER COLLECTED OVER ALL REPS FOR  
SEINE

DECEMBER 1983  
STATION

SPECIES NAME	S1	S2	S3	S4
ANCHOA HEPSETUS	3	0	0	0
ANCHOA MITCHILLI	2	0	0	0
LUCANIA PARVA	0	0	0	4
MENIDIA SP.	5	0	1	5
EUCINOSTOMUS ARGENTEUS	0	0	4	2
EUCINOSTOMUS GULA	0	0	2	1
LAGODON RHOMBOIDES	4	0	1	0
SCIAENOPS OCELLATUS	0	0	1	0
SPHEROIDES NEPHELUS	0	0	0	1
TOTAL NUMBER OF FISH	14	0	9	13
PALAEON FLORIDANUS	0	0	0	1
PALAEONETES INTERMEDIUS	0	0	0	15
PALAEONETES VULGARIS	0	0	0	1
CALLINECTES SAPIDUS	0	0	1	1
NEOPANOPE TEXANA	1	0	0	6
TOTAL NUMBER OF INVERTEBRATES	1	0	1	24

FISHERIES SAMPLING COLLECTIONS  
TOTAL NUMBER COLLECTED OVER ALL REPS FOR

JANUARY 1984

SEINE

SPECIES NAME	S1	S2	S3	S4
CYPRINODON VARIEGATUS	0	0	0	2
LUCANIA PARVA	0	0	0	13
MENIDIA SP.	0	0	0	1
CYNOScion ARENARIUS	0	0	12	0
MUGIL CEPHALUS	0	1	0	1
UNIDENTIFIED	0	0	37	0
TOTAL NUMBER OF FISH	0	1	49	17
PALAEMONETES INTERMEDIUS	0	0	0	1
PALAEMONETES VULGARIS	0	0	0	1
TOTAL NUMBER OF INVERTEBRATES	0	0	0	2

FISHERIES SAMPLING COLLECTIONS  
TOTAL NUMBER COLLECTED OVER ALL REPS FOR  
SEINE

SPECIES NAME	FEBRUARY 1984 STATION			
	S1	S2	S3	S4
OGCOEPHALUS RADIATUS	2	0	0	0
UROPHYCIS FLORIDANA	3	0	0	0
LUCANIA PARVA	0	0	0	1
MENIDIA SP.	5	38	2	6
SYNGNATHUS FLORIDAE	1	0	0	0
SYNGNATHUS SCOVELLI	2	0	0	0
LAGODON RHOMBOIDES	87	32	27	1
LEIOSTOMUS XANTHURUS	2400	23	33	46
MUGIL CEPHALUS	187	0	0	0
MONACANTHUS CILIATUS	0	0	1	0
CHILOMYCTERUS SCHOEPI	1	0	0	0
TOTAL NUMBER OF FISH	2688	93	63	54
PALAEMON FLORIDANUS	75	0	0	0
PALAEMONETES VULGARIS	14	0	0	0
PERICLIMENES LONGICAUDATUS	18	0	1	0
HIPPOLYTE ZOSTERICOLA	37	0	0	0
CALLINECTES SAPIDUS	0	0	1	0
EURYPANOEUS DEPRESSUS	1	0	0	0
TOTAL NUMBER OF INVERTEBRATES	145	0	2	0

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FISHERIES SAMPLING COLLECTIONS  
TOTAL NUMBER COLLECTED OVER ALL REPS FOR  
CREEK TRAWL  
DECEMBER 1983  
STATION

SPECIES NAME	TC1	TC2	TC3	TC4
SYNODUS FOETENS	1	0	0	0
LUCANIA PARVA	0	14	0	1
SYNGNATHUS SCOVELLI	0	1	0	0
EUCINOSTOMUS ARGENTEUS	16	13	1	0
EUCINOSTOMUS GULA	2	8	4	0
LAGODON RHOMBOIDES	0	7	6	1
CYNOSCION ARENARIUS	0	1	0	0
PARALICHTHYS ALBIGUTTA	0	0	1	1
ACHIRUS LINEATUS	0	0	0	1
MONACANTHUS HISPIDUS	0	0	1	0
TOTAL NUMBER OF FISH	19	44	13	4
PENAEUS DUORARUM	1	46	1	3
PALAEONETES INTERMEDIUS	30	660	2	3
PALAEONETES PUGIO	0	3	0	0
PALAEONETES VULGARIS	0	38	0	0
ALPHEUS HETEROCHAEIS	0	0	0	1
HIPPOLYTE PLEURACANTHUS	0	2	0	0
HIPPOLYTE ZOSTERICOLA	1	2	0	0
PAGURUS GYMNODACTUS	0	1	0	0
CALLINECTES SAPIDUS	4	8	0	1
TOTAL NUMBER OF INVERTEBRATES	36	760	3	8



FISHERIES SAMPLING COLLECTIONS  
TOTAL NUMBER COLLECTED OVER ALL REPS FOR  
CREEK TRAWL  
JANUARY 1984  
STATION

SPECIES NAME	TC1	TC2	TC3	TC4
DASYATIS SABINA	1	0	0	0
LUCANIA PARVA	0	0	2	16
SYNGNATHUS SCOVELLI	0	1	3	1
LAGODON RHOMBOIDES	7	374	144	42
CYNOSCIION ARENARIUS	1	5	88	58
CHASMODES SUBURRAE	0	0	1	0
MICROGOBIUS GULOSUS	6	2	1	1
PARALICHTHYS ALBIGUTTA	23	8	1	2
TOTAL NUMBER OF FISH	38	390	240	120
PENAEUS DUORARUM	2	22	3	7
LEANDER TENUICORNIS	0	0	1	1
PALAEON FLORIDANUS	0	0	1	0
PALAEONETES INTERMEDIUS	34	876	1651	60
PALAEONETES PUGIO	1	0	8	22
PALAEONETES VULGARIS	0	26	1	0
ALPHEUS NORMANNI	1	0	0	0
HIPPOLYTE PLEURACANTHUS	0	0	1	0
HIPPOLYTE ZOSTERICOLA	0	6	9	0
PAGURUS GYMNOACTUS	0	5	0	0
PARUGUS POLLICARIS	1	0	0	0
CALLINECTES SAPIDUS	69	25	7	8
EURYPANOPEUS DEPRESSUS	0	2	2	0
NEOPANOPE TEXANA	0	7	6	0
TOTAL NUMBER OF INVERTEBRATES	108	969	1690	98

FISHERIES SAMPLING COLLECTIONS  
TOTAL NUMBER COLLECTED OVER ALL REPS FOR  
CREEK TRAWL  
FEBRUARY 1984  
STATION

SPECIES NAME	TC1	TC2	TC3	TC4
LUCANIA PARVA	0	1	0	0
MENIDIA SP.	9	0	0	0
LAGODON RHOMBOIDES	424	425	22	4
LEIOSTOMUS XANTHURUS	421	137	110	42
MICROGOBIUS GULOSUS	2	0	0	0
PRIONOTUS TRIBULUS	1	0	0	0
PARALICHTHYS ALBIGUTTA	23	22	0	0
UNIDENTIFIED SOLE	0	0	1	0
TOTAL NUMBER OF FISH	880	585	133	46
PENAEUS DUORARUM	11	15	4	0
PALAEONETES INTERMEDIUS	87	351	183	6
PALAEONETES PUGIO	24	30	4	0
PALAEONETES VULGARIS	2	22	3	0
HIPPOLYTE ZOSTERICOLA	0	10	0	0
CALLINECTES SAPIDUS	54	66	5	0
EURYPANOPEUS DEPRESSUS	1	0	1	0
NEOPANOPE TEXANA	2	1	7	0
TOTAL NUMBER OF INVERTEBRATES	181	495	207	6

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FISHERIES SAMPLING COLLECTIONS  
TOTAL NUMBER COLLECTED OVER ALL REPS FOR  
DROP NET  
DECEMBER 1983

SPECIES NAME	STATION	
	D1	D2
OPSANUS BETA	0	1
HIPPOCAMPUS ERECTUS	0	1
SYNGNATHUS SCOVELLI	0	2
EUCINOSTOMUS ARGENTEUS	14	2
EUCINOSTOMUS GULA	0	5
MICROGOBIUS GULOSUS	0	3
TOTAL NUMBER OF FISH	14	14
PENAEUS DUORARUM	4	10
TRACHYPENAEUS SIMILIS	0	4
PALAEMON FLORIDANUS	0	1
PALAEMONETES INTERMEDIUS	0	19
PERICLIMENES AMERICANUS	0	67
PERICLIMENES LONGICAUDATUS	0	105
ALPHEUS HETEROCHAEILIS	0	2
HIPPOLYTE PLEURACANTHUS	0	34
HIPPOLYTE ZOSTERICOLA	0	26
TOZEUMA CAROLINENSE	0	3
AMBIDEXTER SYMMETRICUS	0	1
PAGURUS GYMNOACTUS	0	2
CALLINECTES SAPIDUS	6	0
NEOPANOPE TEXANA	0	8
TOTAL NUMBER OF INVERTEBRATES	10	282

FISHERIES SAMPLING COLLECTIONS  
TOTAL NUMBER COLLECTED OVER ALL REPS FOR  
DROP NET  
JANUARY 1984

SPECIES NAME	STATION	
	D1	D2
OPSANUS BETA	0	1
SYNGNATHUS SCOVELLI	0	1
CYNOSCION ARENARIUS	3	14
GOBIOSOMA ROBUSTUM	1	1
PARALICHTHYS ALBIGUTTA	1	0
UNIDENTIFIED	5	13
TOTAL NUMBER OF FISH	10	30
PENAEUS DUORARUM	0	1
PALAEON FLORIDANUS	0	5
PALAEONETES INTERMEDIUS	0	19
PALAEONETES VULGARIS	0	1
PERICLIMENES AMERICANUS	5	0
PERICLIMENES LONGICAUDATUS	4	0
HIPPOLYTE ZOSTERICOLA	0	1
CALLINECTES SAPIDUS	5	0
EURYPANOPEUS DEPRESSUS	0	1
TOTAL NUMBER OF INVERTEBRATES	14	28

FISHERIES SAMPLING COLLECTIONS  
TOTAL NUMBER COLLECTED OVER ALL REPS FOR

DROP NET  
FEBRUARY 1984

SPECIES NAME	STATION	
	D1	D2
MYROPHIS PUNCTATUS	1	0
ANCHOA MITCHILLI	9	0
MENIDIA SP.	46	0
LAGODON RHOMBROIDES	63	0
LEIOSOMUS XANTHURUS	1295	4
TOTAL NUMBER OF FISH	1414	4
PALAEON FLORIDANUS	0	1
PALAEOMONETES INTERMEDIUS	0	4
CALLINECTES SAPIDUS	1	0
TOTAL NUMBER OF INVERTEBRATES	1	5

FISHERIES SAMPLING COLLECTIONS  
TOTAL BIOMASS (IN GRAMS) OVER ALL REPS FOR  
TRAWL

SPECIES NAME	DECEMBER 1983						STATION				T9
	T1	T2	T3	T4	T5	T6	T7	T8			
ANCHOA MITCHILLI	0.0	1.4	0.0	2.1	0.0	0.0	0.0	0.6	3.4	0.0	
SYNOCHUS FOETENS	0.0	0.0	69.6	0.0	0.0	65.9	0.0	0.0	0.0	0.0	
ARIUS FELIS	0.0	0.0	0.0	0.0	22.8	39.1	0.0	0.0	0.0	0.0	
OPSANUS BETA	0.0	0.0	0.0	0.0	14.4	0.0	0.0	0.0	0.0	0.0	
OGCOCEPHALUS RADIATUS	0.0	0.0	0.0	0.0	63.0	17.6	0.0	0.0	176.1	0.0	
SYNGNATHUS LOUISIANAE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	
EUCINOSTOMUS ARGENTEUS	0.0	0.0	0.0	57.1	0.0	0.0	0.0	0.0	0.0	0.0	
EUCINOSTOMUS GULA	267.9	306.9	43.8	2182.3	273.8	18.2	2.4	39.9	97.6	36.5	
ORTHOPRISTIS CHRYSOPTERA	0.0	27.7	0.0	0.0	0.0	104.3	0.0	0.0	0.0	179.2	
CALAMUS ARCTIFRONS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
LAGODON RHOMBOIDES	106.1	173.2	0.0	40.3	100.3	0.0	62.1	460.6	325.2	78.8	
BAIRDIELLA CHRYSOURA	268.2	240.2	0.0	148.1	134.3	0.0	32.0	0.0	0.0	0.0	
CYNOSCION ARENARIUS	13.5	48.5	0.0	0.0	0.0	33.2	0.0	0.0	0.0	0.0	
LEIOSOMUS XANTHURUS	259.1	643.5	252.5	120.5	277.0	169.5	0.0	0.0	0.0	0.0	
MENTICIRRHUS AMERICANUS	9.4	56.4	21.5	0.0	66.4	70.9	0.0	0.0	0.0	85.5	
CHAEOTODIPTERUS FABER	0.0	0.0	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0	
PRIONOTUS SCITULUS	0.0	0.0	0.0	0.0	0.0	27.1	0.0	0.0	0.0	0.0	
ETROPUS CROSSOTUS	0.0	16.6	4.4	0.0	15.8	0.0	0.0	0.0	0.0	0.0	
PARALICHTHYS ALBIGUTTA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.1	
SYMPHURUS PLAGIOSA	0.0	10.8	13.9	0.0	22.4	19.9	0.0	0.0	0.0	0.0	
MONACANTHUS CILIATUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0	2.2	2.9	
MONACANTHUS HISPIDUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
LACTOPHRYS QUADRICORNIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	246.0	0.0	0.0	
CHILOMYCTERUS SCHOEPI	0.0	0.0	0.0	0.0	240.9	0.0	0.0	0.0	0.0	0.0	
TOTAL BIOMASS OF FISH	924.2	1525.2	405.7	2550.4	1231.1	574.7	97.1	1360.8	405.1		
SQUILLA EMPUSIA	0.0	70.9	0.5	0.0	6.3	1.7	0.0	0.0	0.0	0.0	
PENAEUS DUORARUM	65.7	125.6	47.6	3.8	31.5	17.1	10.6	92.5	106.1		
TRACHYPENAEUS SIMILIS	0.0	0.0	0.1	0.8	2.2	8.4	0.4	0.0	0.0	18.0	
PALAEON FLORIDANUS	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PALAEOMONETES INTERMEDIUS	0.6	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	
PALAEOMONETES VULGARIS	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
ALPHEUS HETEROCHAEILIS	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	
HIPPOLYSMATA WURDMANNI	0.0	0.0	0.0	0.0	0.3	0.0	0.5	0.9	0.4	0.4	
TOZEUMA CAROLINENSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	
PETROLISTHES ARMATUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	
PAGURUS LONGICARPUS	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	
HEPATUS EPHELIITICUS	0.0	0.0	0.0	0.0	0.0	7.1	0.0	0.0	0.0	0.0	
CALLINECTES SAPIDUS	0.0	23.9	54.2	0.0	0.0	0.0	43.5	16.7	0.0	17.8	
PORTUNUS GIBBESI	0.0	0.0	14.3	0.0	8.4	27.8	5.7	0.0	0.0	0.0	
XANTHIDAE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	
NEOPANOPE TEXANA	0.0	0.0	0.0	0.0	0.2	0.0	0.9	1.9	0.0	0.0	
PANOPEUS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.1	0.0	
LIBINIA DUBIA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0	
METOPORHAPHIS CALCARATA	0.0	0.0	0.0	0.0	1.1	1.0	1.6	9.9	2.9	2.9	
UROSALPINX SP.	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
ECHINASTER SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0	
OPHIOTHELEPIDIS ELEGANS	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	
TOTAL BIOMASS OF INVERTEBRATES	69.1	220.4	121.8	4.6	50.1	64.7	63.6	132.6	145.8		



FISHERIES SAMPLING COLLECTIONS  
TOTAL BIOMASS (IN GRAMS) OVER ALL REPS FOR  
TRAWL

SPECIES NAME	JANUARY 1984									
	T1	T2	T3	STATION		T5	T6	T7	T8	T9
				T4						
DASYATIS SABINA	0.0	0.0	0.0	900.0		0.0	0.0	800.0	0.0	0.0
ANCHOA MITCHILLI	0.0	1.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
OPSANUS BETA	4.4	0.0	0.0	0.0		19.0	0.0	1.0	0.0	0.0
OGCOEPHALUS RADIATUS	0.0	0.0	0.0	0.0		0.0	0.0	0.0	9.7	0.0
UROPHYCIS FLORIDANA	7.5	21.5	8.7	5.5		5.7	2.4	0.0	7.3	13.9
HIPPOCAMPUS ERECTUS	0.0	0.0	2.3	0.0		0.0	0.0	0.0	0.0	0.0
SYNGNATHUS FLORIDAE	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	2.7
SYNGNATHUS SCOVELLI	0.0	1.7	0.0	0.0		0.0	0.0	0.0	0.0	0.0
SERRANUS ATROBRANCHIUS	0.0	0.0	0.0	0.0		0.0	0.0	65.5	5.3	0.0
EUCINOSTOMUS GULA	0.0	0.0	0.0	3.7		0.0	0.0	0.0	0.0	0.0
EUCINOSTOMUS SP.	0.0	0.1	0.0	0.0		0.0	0.0	0.0	0.0	0.0
LAGODON RHOMBOIDES	13.3	63.3	0.0	59.9		0.0	0.0	0.0	29.5	8.6
BAIRDIELLA CHRYSOURA	0.0	0.0	0.0	0.0		0.0	0.0	0.0	4.7	0.0
CYNOSCION NEBULOSUS	0.0	0.0	213.5	22.9		0.0	0.0	0.0	0.0	67.7
PRIONOTUS SCITULUS	0.0	0.0	0.0	0.0		2.1	3.8	2.6	0.0	3.2
PRIONOTUS TRIBULUS	0.0	0.0	0.0	0.0		0.0	0.0	4.3	0.0	0.0
ETROPUS CROSOTUS	0.0	0.0	0.0	0.0		5.4	24.8	0.0	0.0	7.0
PARALICHTHYS ALBIGUTTA	132.7	0.0	0.0	53.9		0.0	0.0	0.0	0.0	0.0
SYMPHURUS PLAGIOSA	4.3	0.9	15.7	0.0		0.0	0.0	0.0	0.0	0.0
MONACANTHUS CILIATUS	0.0	0.0	0.0	0.0		0.0	0.0	26.5	11.3	10.4
TOTAL BIOMASS OF FISH	162.2	88.5	240.2	1045.9		32.2	31.0	899.9	67.8	113.5
ANNELIDA	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.5	0.0
SQUILLA EMPUSIA	7.6	16.8	39.4	4.8		12.3	3.1	0.0	6.7	0.0
PENAEUS DUORARUM	82.2	17.9	12.2	13.4		0.0	0.0	30.4	45.9	26.7
TRACHYPENAEUS SIMILIS	0.0	0.0	0.2	0.0		0.0	1.3	0.3	1.0	19.3
PALAEON FLORIDANUS	0.1	7.9	1.0	0.0		0.0	0.3	2.3	3.6	1.6
PALAEOMNETES INTERMEDIUS	1.7	1.8	0.2	0.0		0.0	0.0	0.3	0.0	0.0
PALAEOMNETES VULGARIS	3.9	0.3	0.0	0.0		0.0	0.0	0.0	0.0	0.0
PERICLIMENES AMERICANUS	0.1	0.0	0.0	0.0		0.0	0.0	0.1	0.0	0.0
PERICLIMENES LONGICAUDATUS	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.2
ALPHEUS HETEROCHAEILIS	1.6	0.0	0.0	0.0		0.0	0.0	10.9	0.0	0.0
ALPHEUS NORMANNI	0.0	0.0	0.0	0.0		0.0	0.0	0.3	2.5	0.3
HIPPOLYTE ZOSTERICOLA	0.0	0.0	0.0	0.0		0.0	0.0	0.1	0.0	0.2
THOR DOBKINI	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
TOZEUMA CAROLINENSE	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.2	7.7
AMBIDEXTER SYMMETRICUS	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.2	0.2
PETROLISTHES ARMATUS	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
PAGURUS GYMNOACTUS	0.0	0.2	0.0	0.0		0.0	0.0	0.0	0.0	0.0
PAGURUS LONGICARPUS	0.0	0.2	0.0	0.0		0.0	0.6	0.0	0.0	0.2
PAGURUS POLLICARIS	0.0	0.0	0.0	0.0		0.0	1.4	0.0	0.0	0.0
HEPATUS EPHELITICUS	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
CALLINectes SAPIDUS	10.6	2.3	98.8	94.8		64.6	4.5	0.0	0.0	2.1
PORTUNUS GIBBESI	0.0	0.9	1.5	0.0		2.5	13.2	37.2	1.2	2.6
NEOPANOPE TEXANA	0.0	4.1	1.3	0.0		0.5	0.0	0.0	6.3	6.4
PILUMNUS SAYI	0.0	0.0	0.0	0.0		0.0	1.2	0.0	7.5	1.4
PODOCHELA RIISEI	0.0	0.0	0.0	0.0		0.0	0.0	0.0	1.8	0.0
LIBINIA DUBIA	0.0	4.8	0.0	0.0		0.0	0.0	10.5	0.0	0.0
LIBINIA EMARGINATA	0.0	0.0	0.0	0.0		0.0	0.0	9.7	12.8	0.0
METOPORHAPHIS CALCARATA	0.0	0.0	0.0	0.0		0.0	0.2	0.0	6.9	18.2
EPIALTUS DILATATUS	0.0	0.4	0.0	0.0		0.0	0.0	0.0	0.0	0.1

ARGOPECTEN GIBBUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.4	0.0
ECHINASTER SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	29.6
OPHIOLEPIS ELEGANS	0.0	0.0	0.0	0.0	0.0	1.3	0.4	0.0	0.0	0.0	0.0
TOTAL BIOMASS OF INVERTEBRATES	107.8	57.6	154.6	113.0	81.2	26.2	110.0	98.0	143.5		

FISHERIES SAMPLING COLLECTIONS  
TOTAL BIOMASS (IN GRAMS) OVER ALL REPS FOR  
TRAWL

SPECIES NAME	FEBRUARY 1984						STATION					
	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
DASYATIS SABINA	0.0	0.0	0.0	0.0	0.0	0.0	800.0	0.0	0.0	0.0	0.0	0.0
OPHICHTHUS GOMESI	0.0	0.0	53.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ANCHOA MITCHILLI	0.0	4.6	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SYNODUS FOETENS	0.0	66.6	0.0	0.0	0.0	59.5	0.0	0.0	0.0	0.0	0.0	0.0
OPSANUS BETA	16.0	0.0	0.0	0.0	46.5	0.0	256.8	0.0	0.0	0.0	105.1	0.0
OGCOCEPHALUS RADIATUS	0.0	172.7	42.0	1.4	0.0	67.2	252.4	0.0	0.0	0.0	122.3	0.0
UROPHYCIS FLORIDANA	12.7	57.6	89.7	0.9	38.4	20.8	12.6	71.4	0.0	0.0	65.8	0.0
OPHIDIION HOLBROOKI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.9	0.0
SYNGNATHUS FLORIDAE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6	0.0
SYNGNATHUS SCOVELLI	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SYNGNATHUS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SERRANUS ATROBRANCHUS	0.0	0.0	0.0	0.0	16.7	0.0	10.0	0.0	0.0	0.0	0.0	0.0
EUCINOSTOMUS GULA	0.0	0.0	0.0	12.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ORTHOPRISTIS CHRYSOPTERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.4	0.0	0.0	13.7	0.0
LAGODON RHOMBOIDES	481.7	78.4	0.0	56.0	29.3	36.7	895.8	969.7	226.3	0.0	0.0	0.0
BAIRDIELLA CHRYSOURA	50.7	74.7	0.0	0.0	0.0	0.0	25.8	0.0	0.0	0.0	0.0	0.0
CYNOSCION NEBULOSUS	0.0	0.0	0.0	45.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LEIOSTOMUS XANTHURUS	153.2	81.1	0.0	3.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
PRIONOTUS SCITULUS	0.0	0.0	0.0	0.0	9.0	41.6	0.0	0.0	0.0	0.0	0.0	0.0
PRIONOTUS TRIBULUS	0.0	25.6	0.0	9.5	0.0	0.0	5.0	2.1	0.0	0.0	0.0	0.0
ETROPUS CROSSOTUS	0.0	0.0	0.0	0.0	0.0	9.2	0.0	0.0	0.0	0.0	0.0	0.0
PARALICHTHYS ALBIGUTTA	1.0	0.0	0.0	46.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SYMPHURUS PLAGIUSA	0.0	11.6	16.5	0.0	0.0	0.0	0.0	9.9	0.0	0.0	0.0	0.0
ALUTERUS SCHOEPI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	450.0	2500.0	0.0	0.0	0.0
MONACANTHUS CILIATUS	0.0	0.0	0.0	0.0	0.0	0.0	33.1	1.5	21.5	0.0	0.0	0.0
LACTOPHYRUS QUADRICORNIS	0.0	0.0	0.0	0.0	0.0	0.0	271.2	746.5	524.5	0.0	0.0	0.0
CHILOMYCTERUS SCHOEPI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.6	0.0	0.0	0.0
TOTAL BIOMASS OF FISH	715.3	574.7	201.7	176.7	139.9	235.1	2562.8	2298.5	3692.4	0.0	0.0	0.0
SQUILLA EMPUSIA	0.0	4.1	28.0	22.0	0.0	0.0	11.7	4.5	0.0	0.0	0.0	0.0
PENAEUS DUORARUM	133.0	204.4	182.2	87.1	45.1	24.8	186.7	118.3	173.4	0.0	0.0	0.0
TRACHYPENAEUS SIMILIS	0.0	0.0	0.0	1.9	0.0	0.5	0.9	2.2	20.6	0.0	0.0	0.0
PALAEON FLORIDANUS	2.0	9.0	0.0	0.0	0.0	0.0	1.8	1.9	0.0	0.0	0.0	0.0
PALAEOMNETES INTERMEDIUS	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PALAEOMNETES PUGIO	2.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PALAEOMNETES VULGARIS	15.3	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PERICLIMENES AMERICANUS	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
PERICLIMENES LONGICAUDATUS	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.1	0.0	0.0	0.0	0.0
ALPHEUS HETEROCHELIS	0.8	0.0	0.0	0.0	0.0	0.0	4.7	3.7	0.0	0.0	0.0	0.0
ALPHEUS NORMANNI	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.0	0.0	0.0	0.0	0.0
HIPPOLYTE PLEURACANTHUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HIPPOLYTE ZOSTERICOLA	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.9	0.0	0.0	0.0	0.0
HIPPOLYSMATA WURDMANNI	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0
THOR FLORIDANUS	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.6	0.0	0.0	0.0	0.0
TOZEUMA CAROLINENSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	3.4	0.0	0.0	0.0
AMBIDEXTER SYMMETRICUS	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
PROCESSA HEMPHILLI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0
PETROLISTHES ARMATUS	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.6	0.0	0.0	0.0	0.0
PAGURUS GYMNOCTACTUS	0.0	0.9	0.5	0.0	0.2	0.0	0.3	0.0	0.0	0.0	0.0	0.0
PAGURUS LONGICARPUS	0.0	1.0	0.0	0.0	0.0	1.7	0.0	0.0	3.2	0.0	0.0	0.0
PARAGURUS POLLICARIS	0.0	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PERSEPHONA PUNCTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
CALLINECTES SAPIDUS	57.9	0.0	71.5	13.8	0.0	1.1	140.0	0.0	248.0
PORTUNUS GIBBESI	0.0	0.0	0.0	0.0	2.0	9.0	0.0	4.5	13.4
EURYPANOEUS DEPRESSUS	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MENIPPE MERCENARIA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.8	0.0
NEOPANOPE TEXANA	1.6	14.6	0.4	0.0	3.7	0.6	16.0	4.0	1.1
PANOPEUS HERBSTII	0.0	0.6	0.8	0.0	0.0	0.0	0.0	0.0	0.0
PILUMNUS SAYI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0
RITHROTANOPEUS HARRISII	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.4
LIBINIA DUBIA	0.0	6.6	0.0	0.0	0.0	0.0	19.5	0.0	0.0
METOPORHAPHIS CALCARATA	0.0	0.0	0.8	0.0	0.4	0.6	10.9	7.2	15.7
PODOCHELA SIDNEYI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2
EPIALTIUS DILATATUS	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
ARGOPECTEN GIBBUS	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0
DORIDIDAE	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
HAMINDEA SP.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LOLLIGUNCULA BREVIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3
LAEVICARDIUM MORTONI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
NASSARIUS VIBEX	0.0	2.1	0.0	0.8	0.0	0.0	0.0	0.4	0.0
UROSALPINX CINEREA	0.0	0.0	0.0	0.0	0.0	0.0	1.6	11.8	0.0
UROSALPINX SP.	0.0	0.0	0.0	0.0	6.9	6.8	0.0	0.0	0.0
ECHINASTER SP.	0.0	0.0	0.0	0.0	0.0	0.0	13.1	4.1	61.6
OPHIODERMA SP.	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0
OPHIOLEPIS ELEGANS	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0
TOTAL BIOMASS OF INVERTEBRATES	220.0	246.7	284.2	125.6	64.2	45.1	419.4	208.6	546.1

1

FISHERIES SAMPLING COLLECTIONS  
TOTAL BIOMASS (IN GRAMS) OVER ALL REPS FOR  
SEINE

SPECIES NAME	51	DECEMBER STATION 52	1983 53	54
ANCHOA HEPSETUS	1.0	0.0	0.0	0.0
ANCHOA MITCHILLI	0.6	0.0	0.0	0.0
LUCANIA PARVA	0.0	0.0	0.0	0.8
MENIDIA SP.	26.3	0.0	5.6	15.9
EUCINOSTOMUS ARGENTEUS	0.0	0.0	11.4	2.7
EUCINOSTOMUS GULA	0.0	0.0	9.0	2.4
LAGODON RHOMBOIDES	89.4	0.0	20.1	0.0
SCIAENOPS OCELLATUS	0.0	0.0	484.4	0.0
SPHOEROIDES NEPHELUS	0.0	0.0	0.0	2.5
TOTAL BIOMASS OF FISH	117.3	0.0	530.5	24.3
PALAEMON FLORIDANUS	0.0	0.0	0.0	0.1
PALAEMONETES INTERMEDIUS	0.0	0.0	0.0	2.3
PALAEMONETES VULGARIS	0.0	0.0	0.0	0.2
CALLINECTES SAPIDUS	0.0	0.0	9.1	34.1
NEOPANOPE TEXANA	0.4	0.0	0.0	3.6
TOTAL BIOMASS OF INVERTEBRATES	0.4	0.0	9.1	40.3

FISHERIES SAMPLING COLLECTIONS  
TOTAL BIOMASS (IN GRAMS) OVER ALL REPS FOR

SEINE

JANUARY 1984

SPECIES NAME	STATION			
	S1	S2	S3	S4
CYPRINODON VARIEGATUS	0.0	0.0	0.0	5.6
LUCANIA PARVA	0.0	0.0	0.0	3.3
MENIDIA SP.	0.0	0.0	0.0	1.7
CYNOScion ARENARIUS	0.0	0.0	0.6	0.0
MUGIL CEPHALUS	0.0	320.9	0.0	0.1
UNIDENTIFIED	0.0	0.0	2.4	0.0
TOTAL BIOMASS OF FISH	0.0	320.9	3.0	10.7
PALAEOMONETES INTERMEDIUS	0.0	0.0	0.0	0.1
PALAEOMONETES VULGARIS	0.0	0.0	0.0	0.2
TOTAL BIOMASS OF INVERTEBRATES	0.0	0.0	0.0	0.3



FISHERIES SAMPLING COLLECTIONS  
TOTAL BIOMASS (IN GRAMS) OVER ALL REPS FOR  
SEINE

SPECIES NAME	FEBRUARY 1984 STATION			
	S1	S2	S3	S4
OGCOEPHALUS RADIATUS	135.9	0.0	0.0	0.0
UROPHYCIS FLORIDANA	7.4	0.0	0.0	0.0
LUCANIA PARVA	0.0	0.0	0.0	0.2
MENIDIA SP.	0.3	3.2	0.1	13.9
SYNGNATHUS FLORIDAE	0.3	0.0	0.0	0.0
SYNGNATHUS SCDVELLI	1.8	0.0	0.0	0.0
LAGODON RHOMBOIDES	11.4	5.6	1.6	14.4
LEIOSTOMUS XANTHURUS	168.0	1.3	2.0	3.3
MUGIL CEPHALUS	31.2	0.0	0.0	0.0
MONACANTHUS CILIATUS	0.0	0.0	4.9	0.0
CHILOMYCTERUS SCHOEFFI	172.3	0.0	0.0	0.0
TOTAL BIOMASS OF FISH	528.6	10.1	8.6	31.8
PALAEON FLORIDANUS	25.1	0.0	0.0	0.0
PALAEONETES VULGARIS	4.3	0.0	0.0	0.0
PERICLIMENES LONGICAUDATUS	0.7	0.0	0.1	0.0
HIPPOLYTE ZOSTERICOLA	1.5	0.0	0.0	0.0
CALLINECTES SAPIDUS	0.0	0.0	3.5	0.0
EURYPANOPEUS DEPRESSUS	0.2	0.0	0.0	0.0
TOTAL BIOMASS OF INVERTEBRATES	31.8	0.0	3.6	0.0

1

FISHERIES SAMPLING COLLECTIONS  
TOTAL BIOMASS (IN GRAMS) OVER ALL REPS FOR  
CREEK TRAWL

DECEMBER 1983

STATION

SPECIES NAME	TC1	TC2	TC3	T4
SYNODUS FOETENS	0.1	0.0	0.0	0.0
LUCANIA PARVA	0.0	6.6	0.0	0.4
SYNGNATHUS SCOVELLI	0.0	0.3	0.0	0.0
EUCINOSTOMUS ARGENTEUS	5.8	4.0	2.9	0.0
EUCINOSTOMUS GULA	3.0	9.4	11.3	0.0
LAGODON RHOMBOIDES	0.0	73.3	68.4	9.3
CYNOSEION ARENARIUS	0.0	0.2	0.0	0.0
PARALICHTHYS ALBIGUTTA	0.0	0.0	10.4	330.5
ACHIRUS LINEATUS	0.0	0.0	0.0	0.3
MONACANTHUS HISPIDUS	0.0	0.0	2.0	0.0
TOTAL BIOMASS OF FISH	8.9	93.8	95.0	340.5
PENAEUS DUORARUM	0.6	32.4	2.3	3.6
PALAEONETES INTERMEDIUS	2.5	62.0	0.3	1.4
PALAEONETES PUGIO	0.0	0.4	0.0	0.0
PALAEONETES VULGARIS	0.0	5.0	0.0	0.0
ALPHEUS HETEROCHAEIS	0.0	0.0	0.0	0.2
HIPPOLYTE PLEURACANTHUS	0.0	0.0	0.0	0.0
HIPPOLYTE ZOSTERICOLA	0.0	0.0	0.0	0.0
PAGURUS GYMNOCTACTUS	0.0	0.1	0.0	0.0
CALLINECTES SAPIDUS	34.8	85.7	0.0	120.8
TOTAL BIOMASS OF INVERTEBRATES	37.9	185.7	2.6	126.0

FISHERIES SAMPLING COLLECTIONS  
TOTAL BIOMASS (IN GRAMS) OVER ALL REPS FOR  
CREEK TRAWL

SPECIES NAME	JANUARY 1984 STATION			
	TC1	TC2	TC3	T4
DASYATIS SABINA	664.7	0.0	0.0	0.0
LUCANIA PARVA	0.0	0.0	0.9	6.3
SYNGNATHUS SCOVELLI	0.0	0.5	3.5	0.5
LAGODON RHOMBOIDES	0.7	34.6	8.0	2.1
CYNOSCION ARENARIUS	0.1	0.5	6.4	3.1
CHASMIDES SUBURRAE	0.0	0.0	1.1	0.0
MICROGOBIUS GULOSUS	2.9	1.0	0.5	1.1
PARALICHTHYS ALBIGUTTA	67.9	0.7	0.1	0.2
TOTAL BIOMASS OF FISH	736.3	37.3	20.5	13.3
PENAEUS DUORARUM	3.1	14.2	1.3	6.3
LEANDER TENUICORNIS	0.0	0.0	0.1	0.1
PALAEEMON FLORIDANUS	0.0	0.0	0.1	0.0
PALAEEMONETES INTERMEDIUS	4.2	71.5	140.8	5.9
PALAEEMONETES PUGIO	0.1	0.0	0.6	3.3
PALAEEMONETES VULGARIS	0.0	3.7	0.2	0.0
ALPHEUS NORMANNI	1.4	0.0	0.0	0.0
HIPPOLYTE PLEURACANTHUS	0.0	0.0	0.0	0.0
HIPPOLYTE ZOSTERICOLA	0.0	0.3	0.3	0.0
PAGURUS GYMNOACTIUS	0.0	0.4	0.0	0.0
PARUGUS POLLICARIS	1.2	0.0	0.0	0.0
CALLINECTES SAPIDUS	195.2	21.5	28.4	5.9
EURYPANOPEUS DEPRESSUS	0.0	0.9	0.7	0.0
NEOPANOPE TEXANA	0.0	1.9	1.3	0.0
TOTAL BIOMASS OF INVERTEBRATES	205.2	114.4	173.9	21.5

FISHERIES SAMPLING COLLECTIONS  
TOTAL BIOMASS (IN GRAMS) OVER ALL REPS FOR  
CREEK TRAWL

FEBRUARY 1984

STATION

SPECIES NAME	TC1	TC2	TC3	T4
LUCANIA PARVA	0.0	0.8	0.0	0.0
MENIDIA SP.	5.4	0.0	0.0	0.0
LAGODON RHOMBOIDES	64.8	137.3	18.1	0.6
LEIOSTOMUS XANTHURUS	56.0	72.2	37.1	8.3
MICROGOBIUS GULOSUS	0.8	0.0	0.0	0.0
PRIONOTUS TRIBULUS	0.2	0.0	0.0	0.0
PARALICHTHYS ALBIGUTTA	97.2	19.0	0.0	0.0
UNIDENTIFIED SOLE	0.0	0.0	25.7	0.0
TOTAL BIOMASS OF FISH	224.4	229.3	80.9	8.9
PENAEUS DUORARUM	26.3	16.2	6.5	0.0
PALAEONETES INTERMEDIUS	10.2	41.3	28.3	0.7
PALAEONETES PUGIO	4.3	5.2	0.5	0.0
PALAEONETES VULGARIS	0.3	5.1	0.4	0.0
HIPPOLYTE ZOSTERICOLA	0.0	0.6	0.0	0.0
CALLINECTES SAPIDUS	587.5	68.6	22.7	0.0
EURYPANOPEUS DEPRESSUS	0.3	0.0	0.1	0.0
NEOPANOPE TEXANA	1.9	1.3	0.9	0.0
TOTAL BIOMASS OF INVERTEBRATES	630.8	138.3	59.4	0.7

1

FISHERIES SAMPLING COLLECTIONS  
TOTAL BIOMASS (IN GRAMS) OVER ALL REPS FOR  
DROP NET  
DECEMBER 1983

SPECIES NAME	STATION	
	D1	D2
OPSANUS BETA	0.0	2.0
HIPPOCAMPUS ERECTUS	0.0	0.1
SYNGNATHUS SCOVELLI	0.0	1.2
EUCINOSTOMUS ARGENTEUS	3.1	5.0
EUCINOSTOMUS GULA	0.0	18.5
MICROGOBIUS GULOSUS	0.0	0.4
 TOTAL BIOMASS OF FISH	 3.1	 27.2
 PENAEUS DUORARUM	 1.8	 2.8
TRACHYPENAEUS SIMILIS	0.0	0.6
PALAEON FLORIDANUS	0.0	0.5
PALAEONETES INTERMEDIUS	0.0	4.0
PERICLIMENES AMERICANUS	0.0	2.7
PERICLIMENES LONGICAUDATUS	0.0	2.4
ALPHEUS HETEROCHAEIS	0.0	0.3
HIPPOLYTE PLEURACANTHUS	0.0	0.4
HIPPOLYTE ZOSTERICOLA	0.0	0.8
TOZEUMA CAROLINENSE	0.0	0.1
AMBIDEXTER SYMMETRICUS	0.0	0.0
PAGURUS GYMNOACTUS	0.0	0.1
CALLINECTES SAPIDUS	1.5	0.0
NEOPANOPE TEXANA	0.0	4.0
 TOTAL BIOMASS OF INVERTEBRATES	 3.3	 18.8

FISHERIES SAMPLING COLLECTIONS  
TOTAL BIOMASS (IN GRAMS) OVER ALL REPS FOR  
DROP NET

SPECIES NAME	JANUARY 1984	
	D1	STATION D2
OPSANUS BETA	0.0	0.7
SYNGNATHUS SCOVELLI	0.0	0.7
CYNOSCION ARENARIUS	0.2	0.5
GOBIOSOMA ROBUSTUM	0.3	0.2
PARALICHTHYS ALBIGUTTA	0.2	0.0
UNIDENTIFIED	0.2	0.5
TOTAL BIOMASS OF FISH	0.9	2.6
PENAEUS DUORARUM	0.0	0.2
PALAEMON FLORIDANUS	0.0	0.4
PALAEMONETES INTERMEDIUS	0.0	3.0
PALAEMONETES VULGARIS	0.0	0.2
PERICLIMENES AMERICANUS	0.1	0.0
PERICLIMENES LONGICAUDATUS	0.1	0.0
HIPPOLYTE ZOSTERICOLA	0.0	0.0
CALLINECTES SAPIDUS	15.7	0.0
EURYPANOPEUS DEPRESSUS	0.0	0.3
TOTAL BIOMASS OF INVERTEBRATES	15.9	4.1



FISHERIES SAMPLING COLLECTIONS  
 TOTAL BIOMASS (IN GRAMS) OVER ALL REPS FOR  
 DROP NET  
 FEBRUARY 1984

SPECIES NAME	STATION	
	D1	D2
MYROPHIS PUNCTATUS	0.1	0.0
ANCHOA MITCHILLI	1.6	0.0
MENIDIA SP.	4.3	0.0
LAGODON RHOMBOIDES	6.8	0.0
LEIOSTOMUS XANTHURUS	250.2	0.4
TOTAL BIOMASS OF FISH	263.0	0.4
PALAEMON FLORIDANUS	0.0	0.1
PALAEMONETES INTERMEDIUS	0.0	1.1
CALLINECTES SAPIDUS	0.3	0.0
TOTAL BIOMASS OF INVERTEBRATES	0.3	1.2

## FISHERIES

## NUMBER AND AVERAGE WIDTH OF CRABS TRAPPED

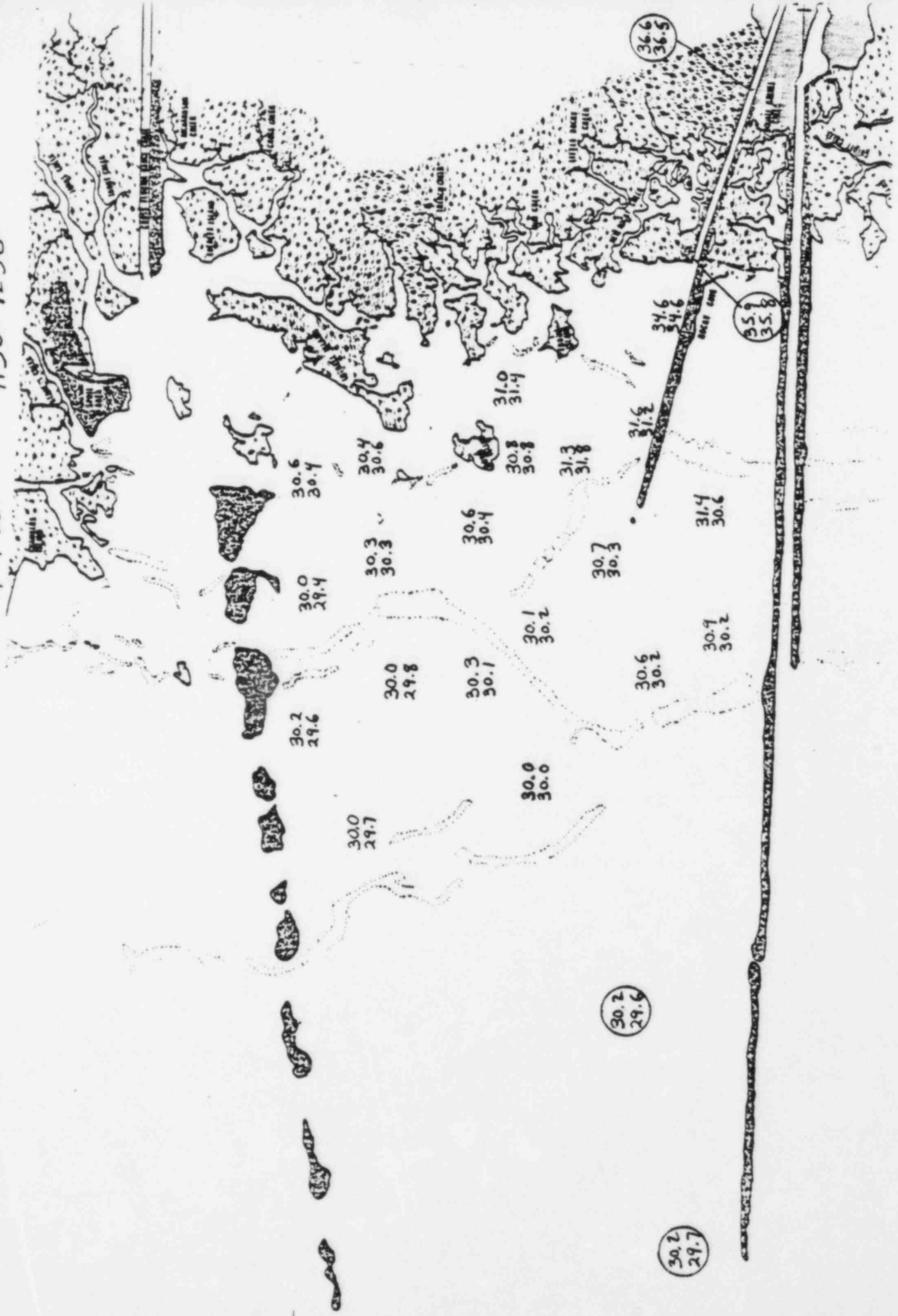
FROM NOVEMBER 9, 1983 THROUGH JANUARY 2, 1984

STATION	BLUE CRAB		STONE CRAB	
	NUMBER	WIDTH	NUMBER	WIDTH
A1	441	142.2	8	78.4
A2	259	145.1	121	79.9
A3	289	148.5	191	79.4
A4	428	150.1	104	80.0
A5	60	153.8	206	80.5
A6	57	149.5	175	82.3
B1	360	143.8	96	81.2
B2	337	149.9	154	79.8
B3	296	147.5	127	79.9
B4	193	148.7	164	81.2
B5	95	147.7	207	79.4
B6	0		268	79.8
C1	218	141.3	66	78.7
C2	135	147.9	105	75.8
C3	401	149.3	69	76.9
C4	196	151.7	106	78.8
C5	95	144.1	199	78.7
C6	44	153.9	160	79.1
D1	284	151.5	5	85.2
D2	476	154.1	8	79.6
D3	527	148.2	27	79.4
D4	361	147.8	97	79.1
D5	88	147.1	183	79.3
D6	20	153.9	251	78.7

#### 4.5 PHYSICAL DATA

Survey of temperatures (°C) AWS (1)

8/6/83 1136-1236



Temperatures (C)	Ebb (l)
10	0.0
20	0.0
30	0.0
40	0.0
50	0.0
60	0.0
70	0.0
80	0.0
90	0.0
100	0.0

8/6/83

1530 - 1630



(i)  $5m7$

1953-2053





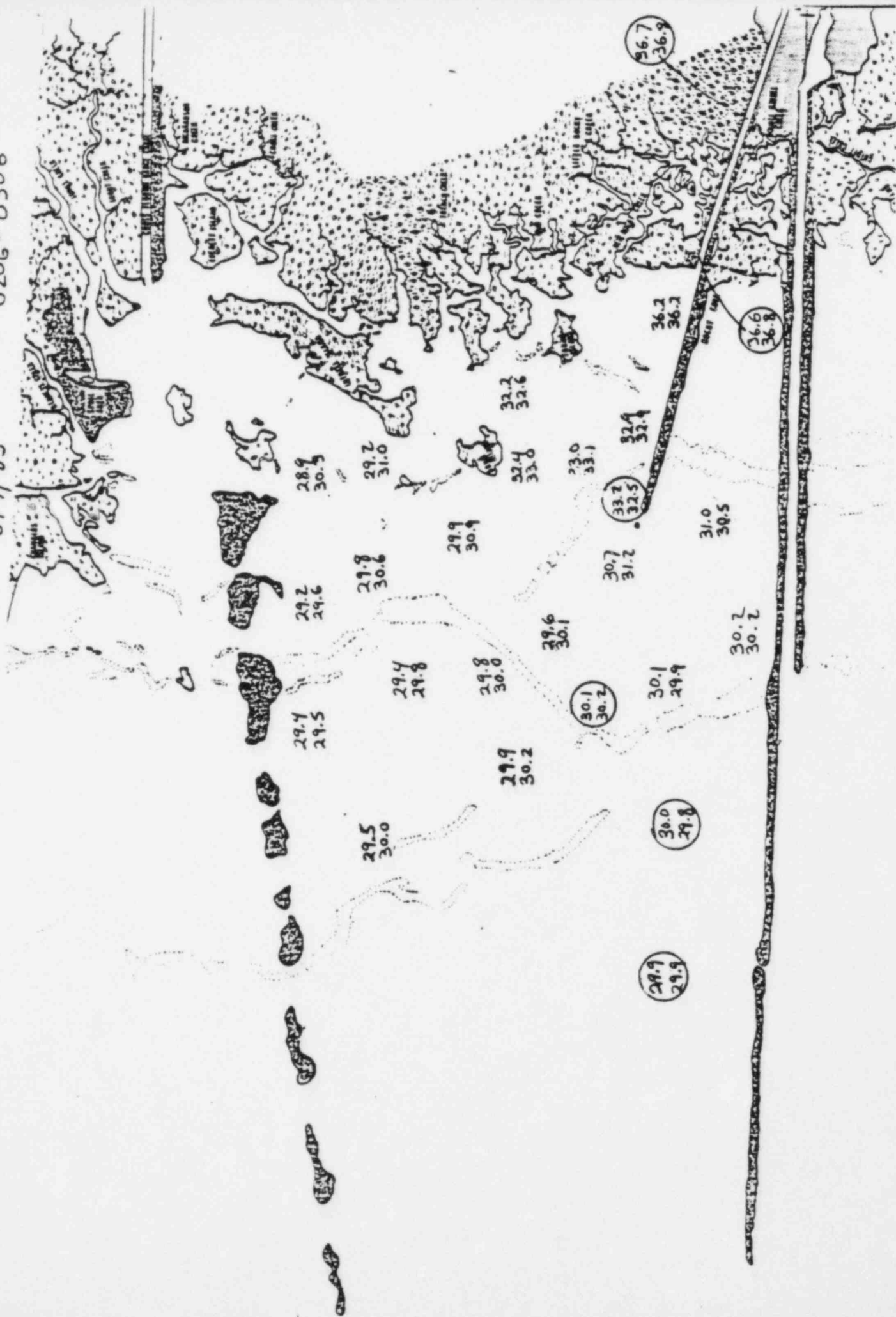
Flood (1)

2300 - 2400



5

0206-0306



temperatures (°C) 266 (2)

8/7/83 0450 - 0550



(2) CMZ

8/7/83 0734-0834





8

8/7/83

1003-1103



Temperatures (°C)

HWS(3)

9

8/7/83

1230 - 1330





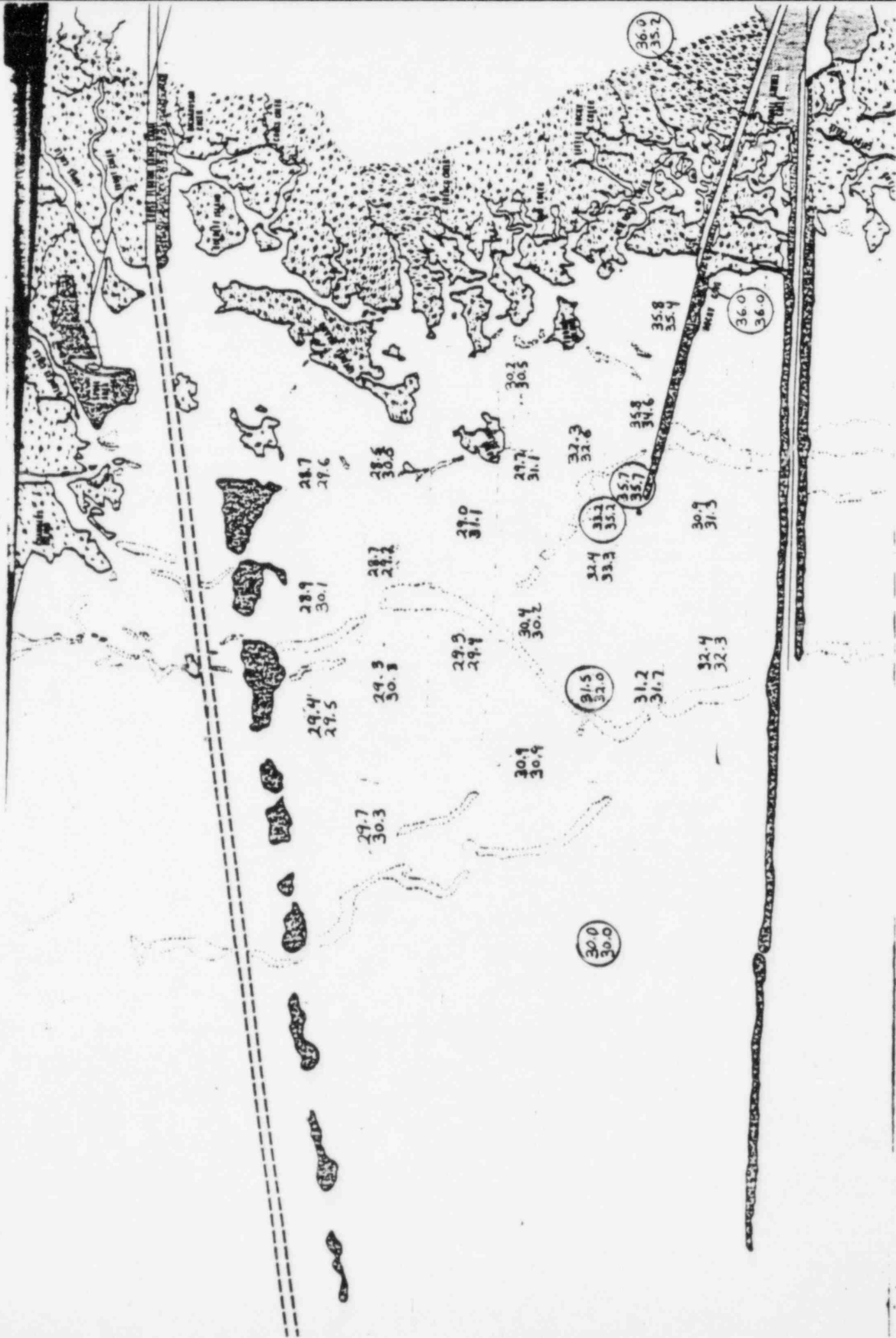
Survey 12

temperatures (C)

200

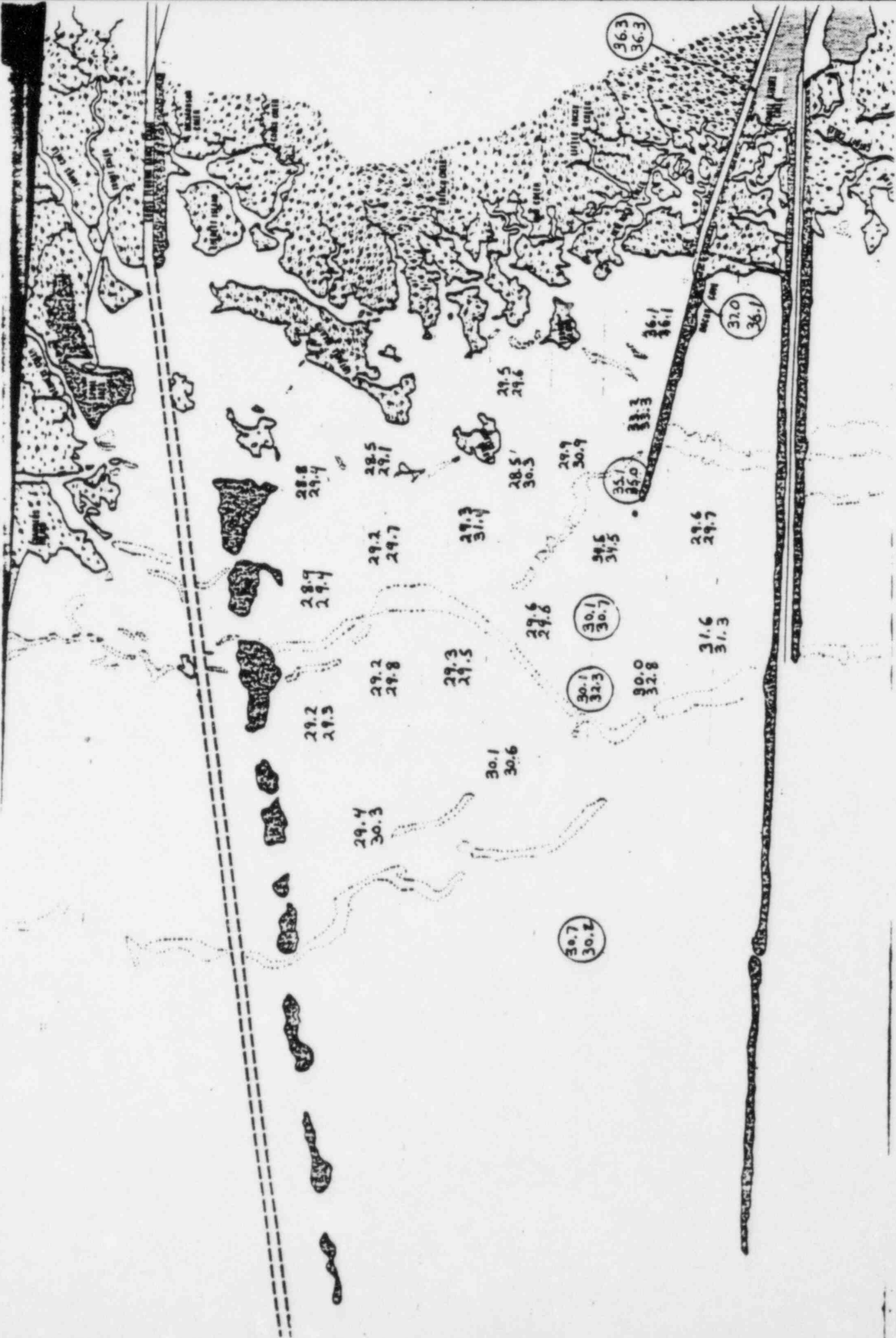
8/13/83

0846-0946



temperatures (°C) LWS

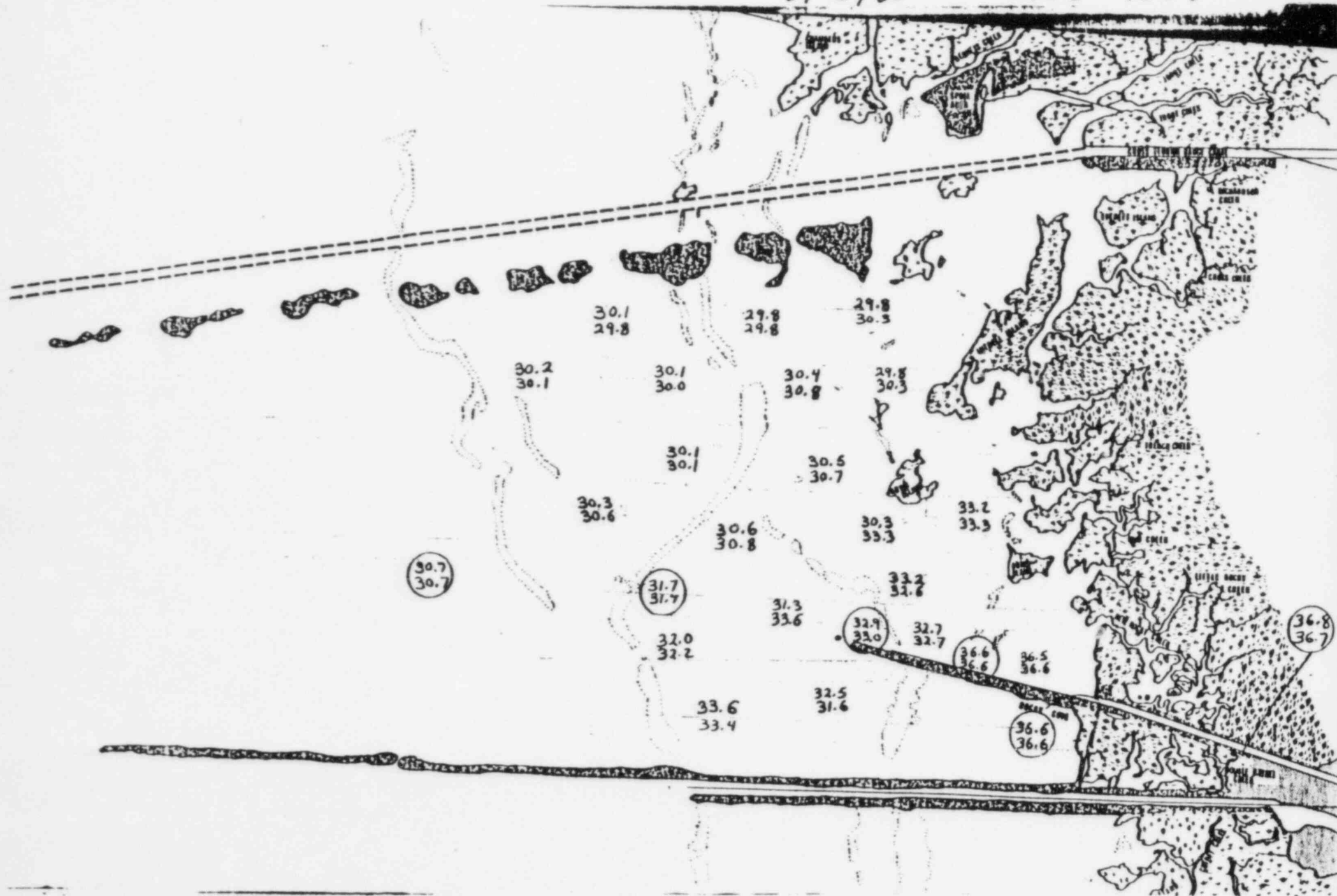
8/13/83 1216 - 1316



Temperatures (C) Flood

8/13/83

1458 - 1558



Smith

1840



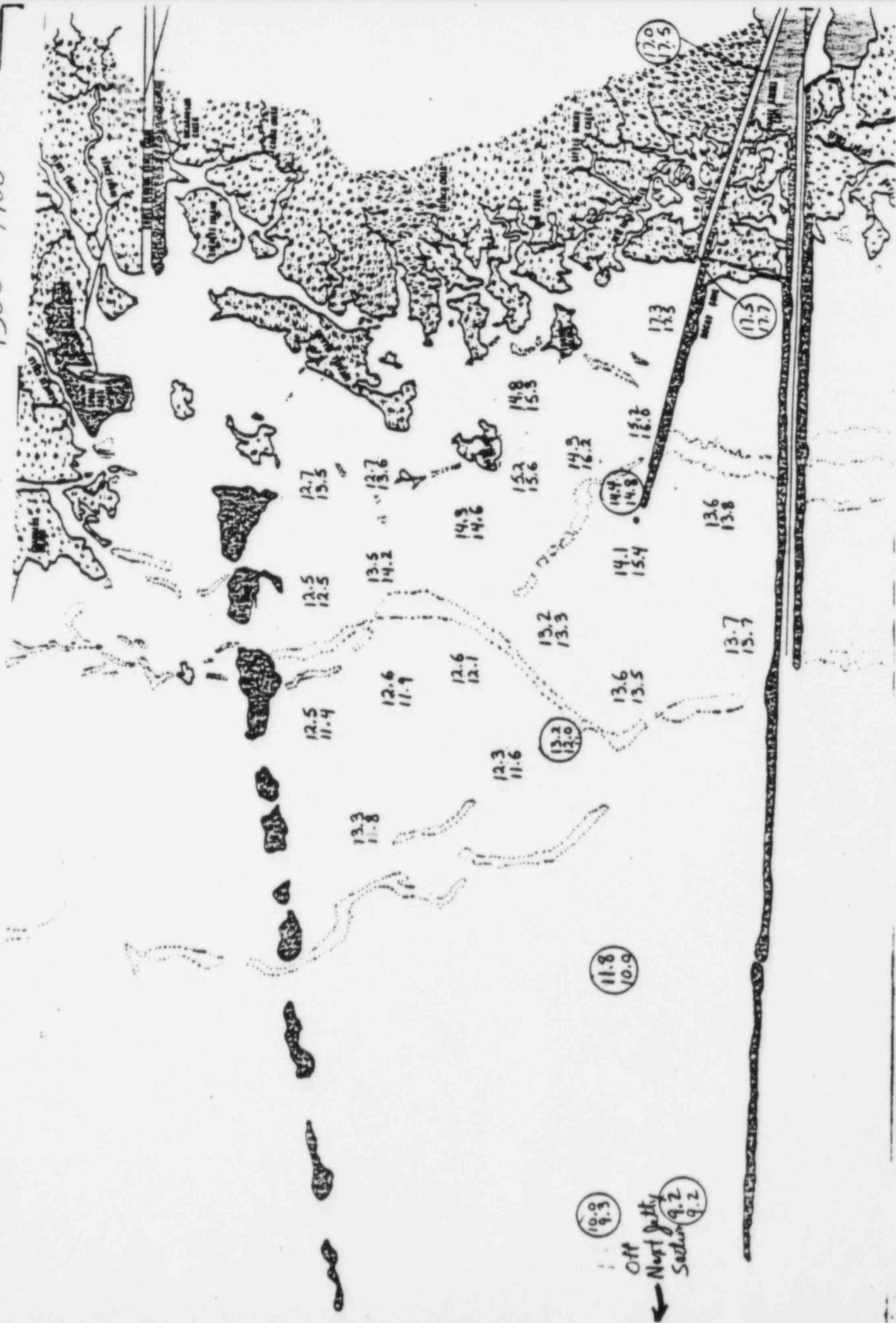
Salary

5011-5001



1/6/84

1300 - 1400







Temperature

(1) 992

1/6/84

1856-1956



1/6/84

2156-2256



1/7/84

0025-0125



11/7/84





581611





1/9/84 0808-0908

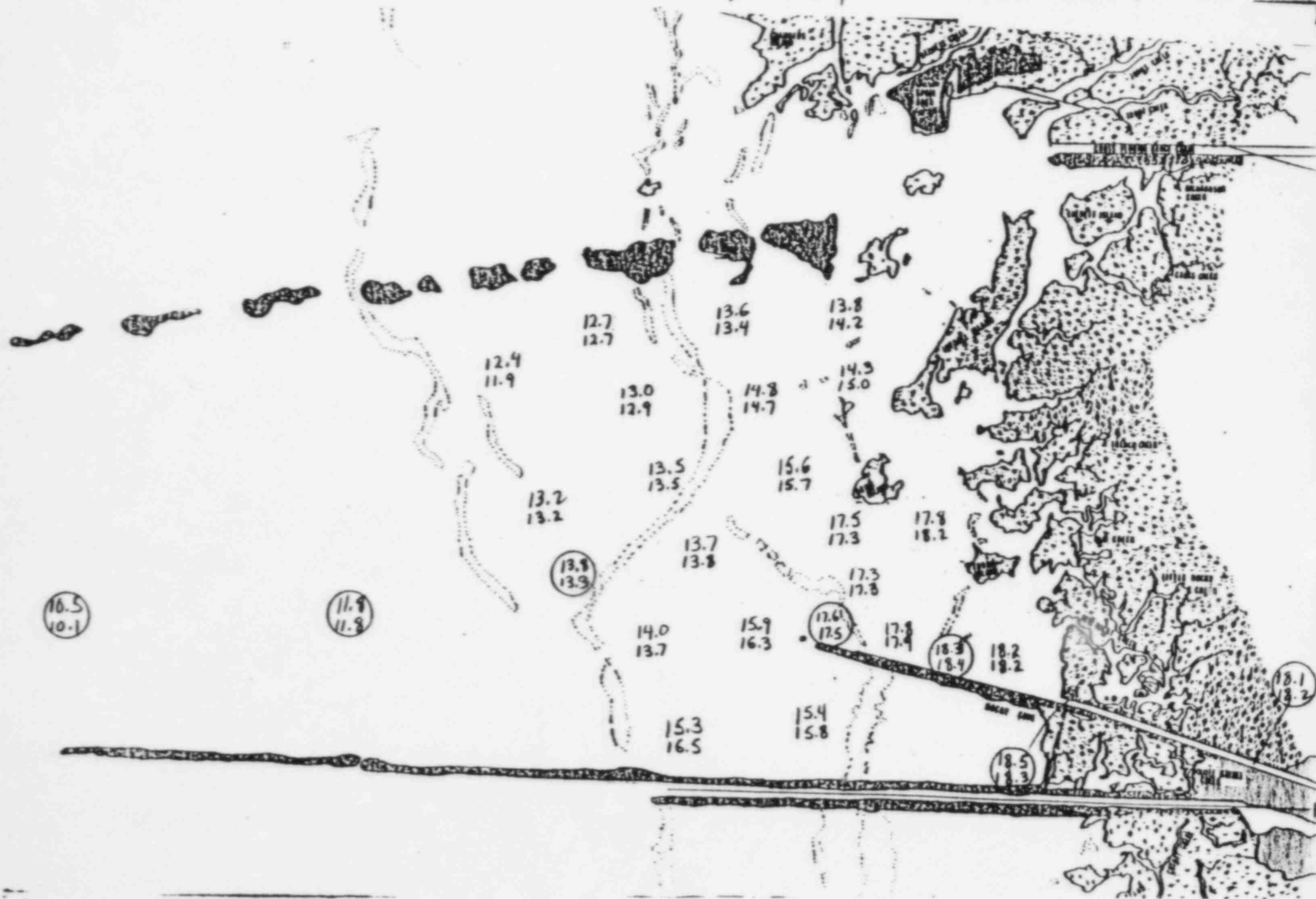


1146-1246



1/9/84

1438-1538



1730 - 1830



Survey 21

Salinity (ppt)

8/6/83

1136-1236





112992

$$1530 \div 1630$$



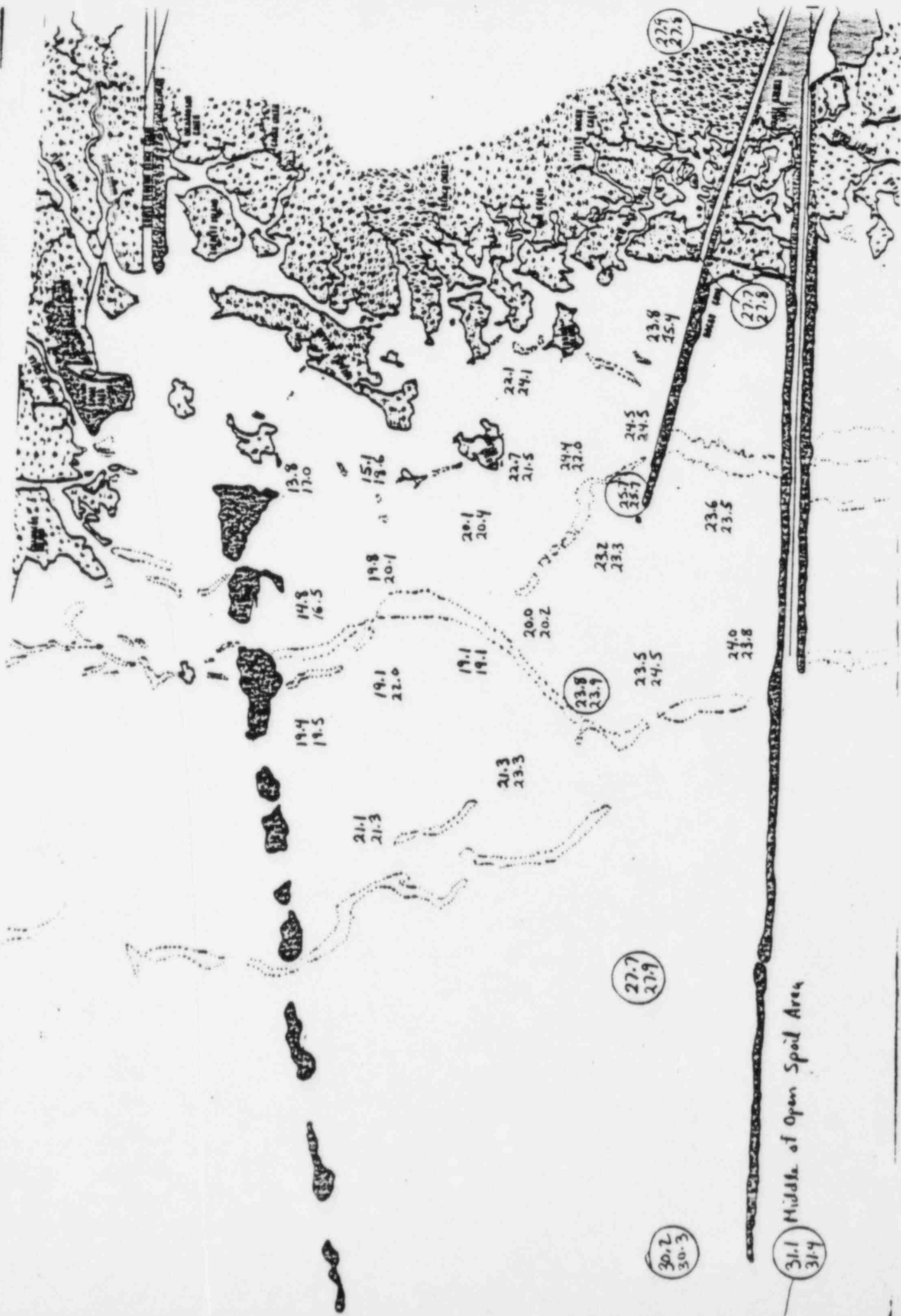

Sanitary (PWS) LWS(1)

8/6/83

1953 - 2053

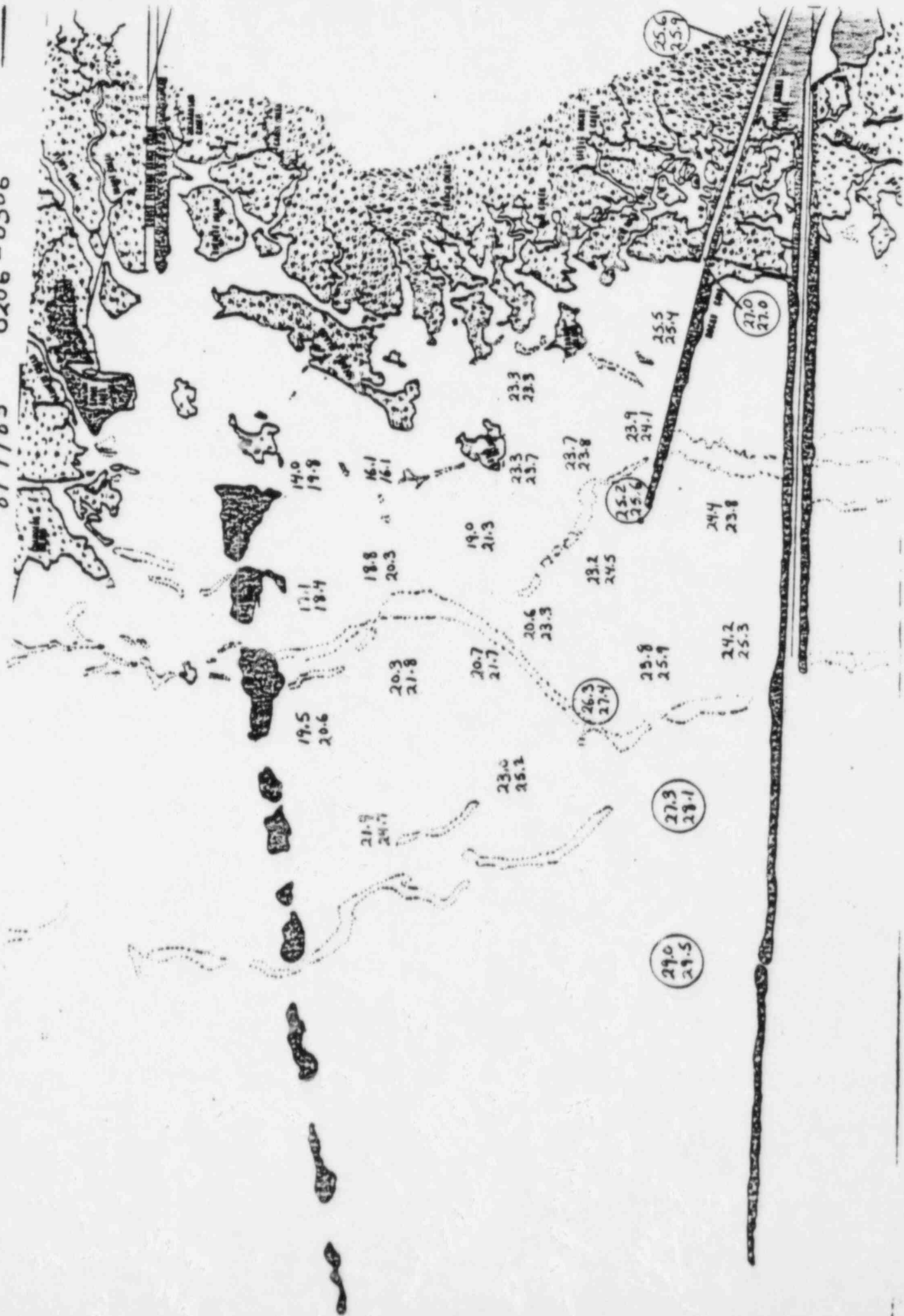


8/6/83



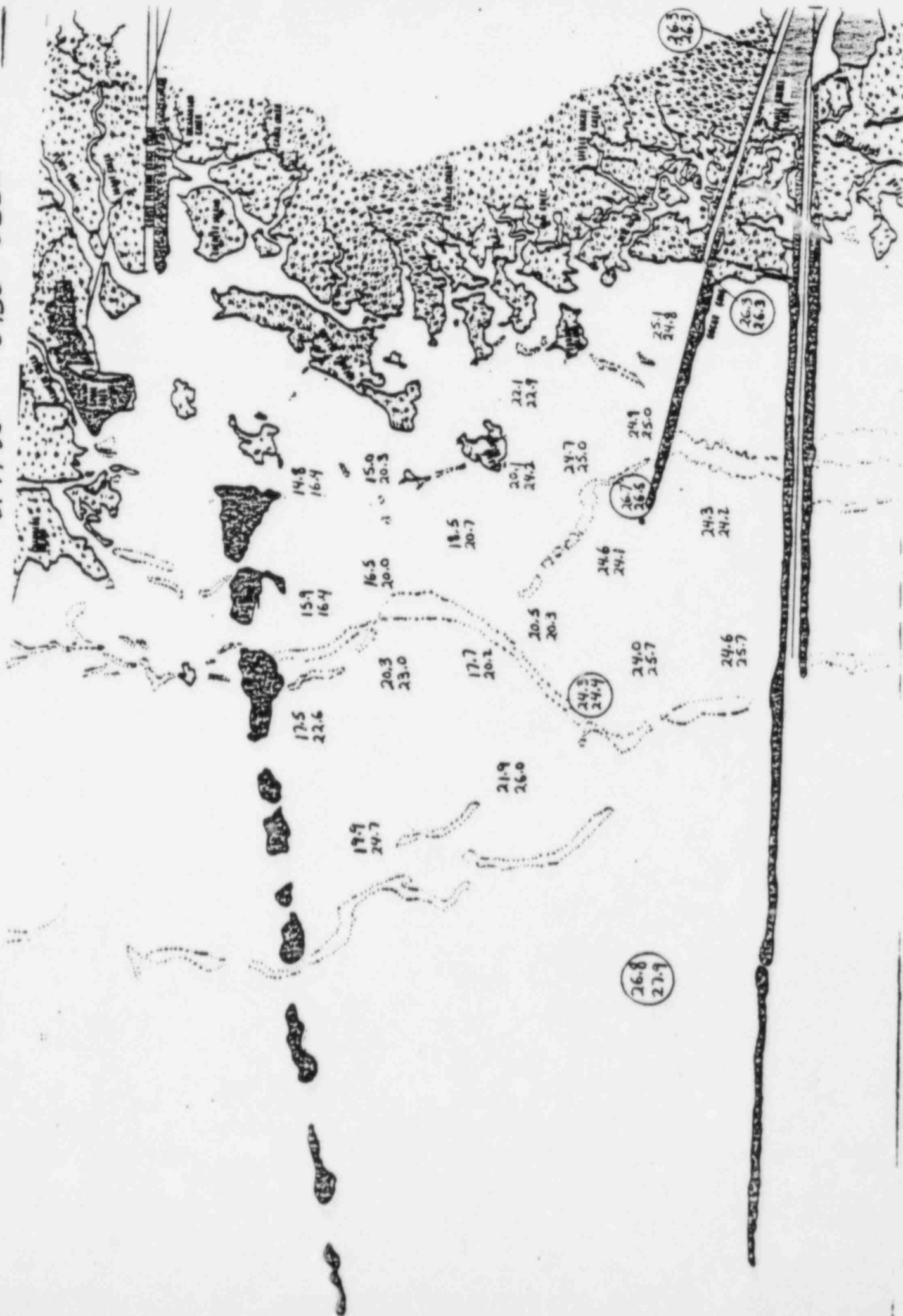
Sally Indy (PPT)

0206-0306



Summary (115) 288(5)

8/7/83 0450-0550





Salinity (PPT) LWS(2)

8/17/83 0734-0834



817/83 1003-1103





HWS(3)

1230 - 1330



2992

0846 - 0946



507

8/13/83

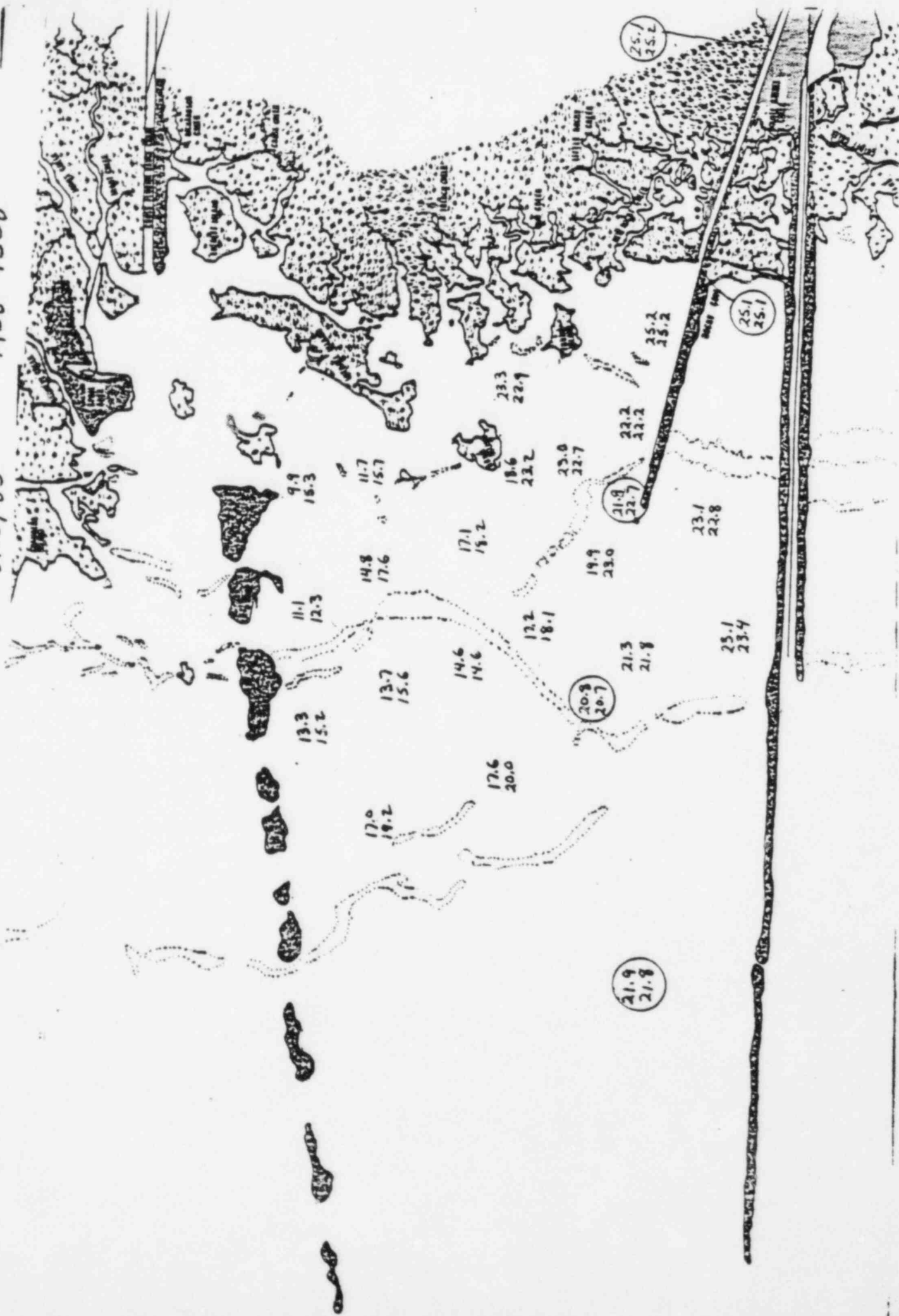
1216 - 1316



Salinity (PPT) flood

8/13/83

1458 - 1558





Salinity (ppt) HWS  
8/13/83 1740-1840



Survey 113

Salinity (PPT) LWS(1)

11/6/84

1005-1105





Saturday (PPE) Flood(1)

1/6/84 1300 - 1400

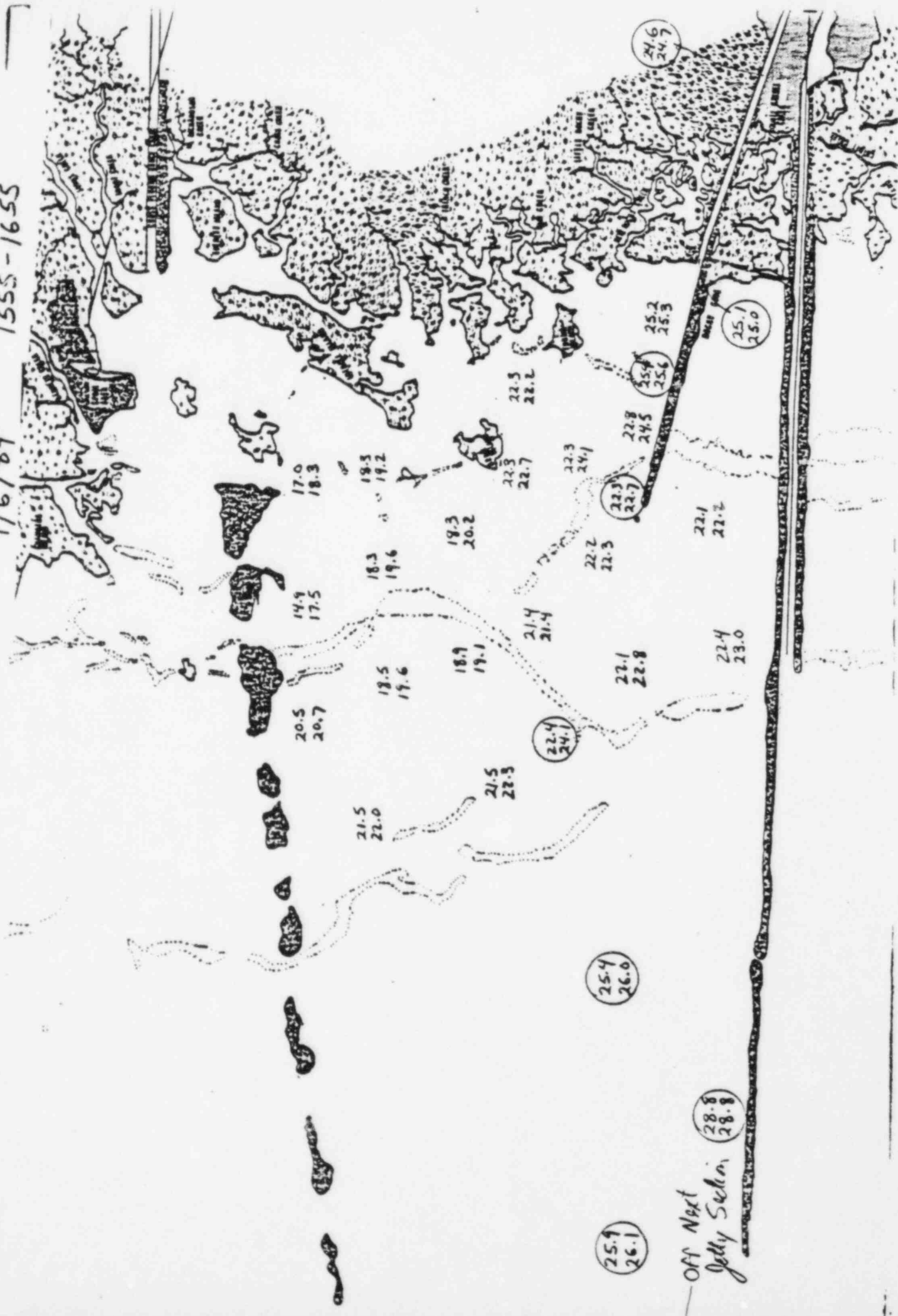


Salinity (ppt)

HWS (1)

11/6/84

5591-5551



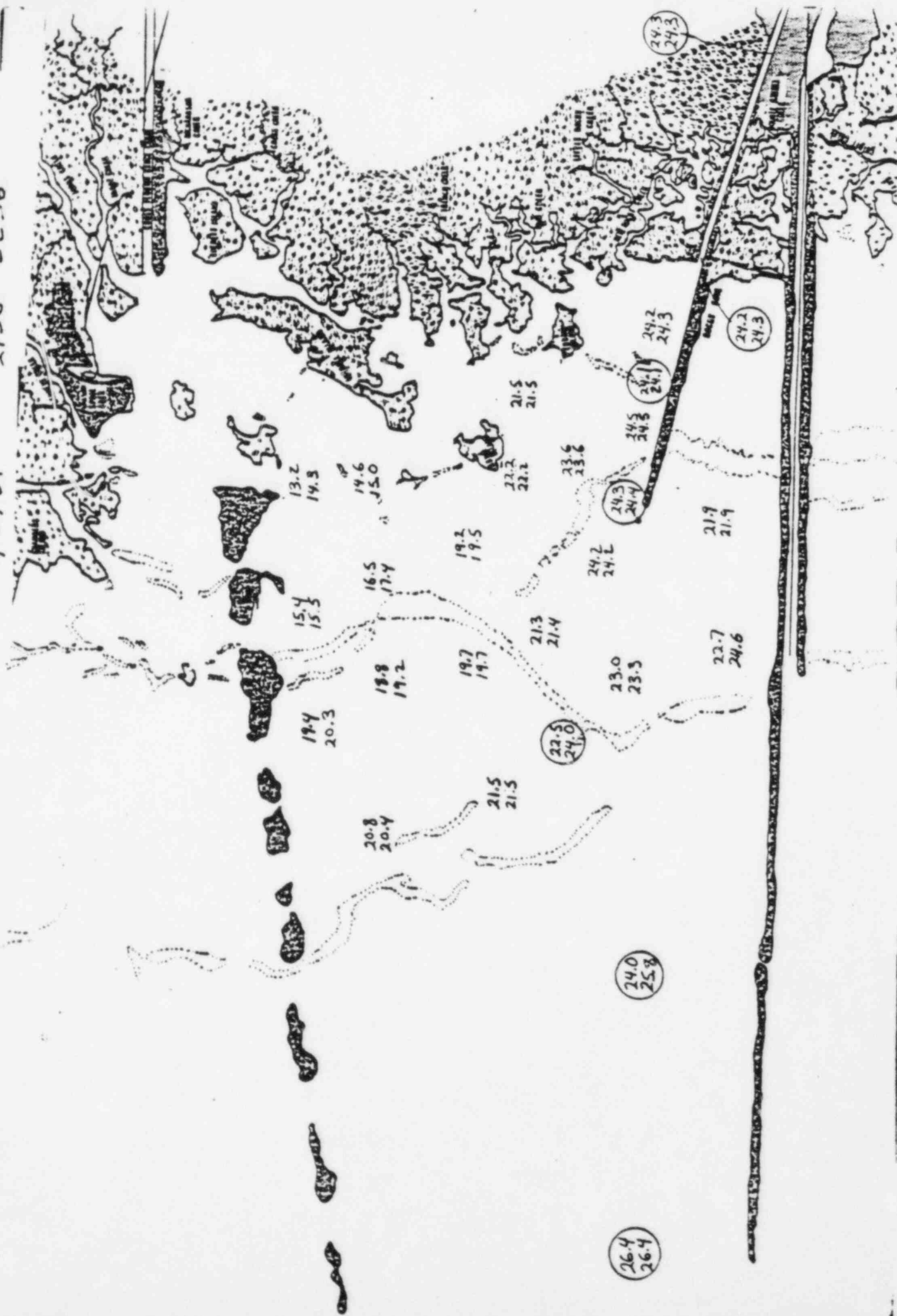
Salinity (ppt) Ebb(1)

1/6/84

1856-1956



2156 - 2256





Sandy (PH) Flood (2)

1/7/84

0025-0125



Saturday (PPT) HWS(2)

1/7/84

0254-0354





Salway (177) 25665

1/7/84

0646-0746



2992

8060 8080 0808 0908



Satinity (ppt) LWS

1146 - 1246

1/9/84



1438-1538





HW3

1730-1830

